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COMMERCIAL THYROID PREPARATIONS AND SUGGESTIONS AS TO THE STANDARDIZATION OF THYROID.*

REID HUNT, M.D.

Chief, Division of Pharmacology, Hygienic Laboratory, Public Health and Marine-Hospital Service; Member of the Council on Pharmacy and Chemistry, American Medical Association.

AND

ATHERTON SEIDELL, PH.D.

Chemist, Division of Pharmacology, Hygienic Laboratory.

WASHINGTON, D. C.

In these remarks the thyroid will be considered from but one standpoint, namely, as a drug in the same sense that opium and nux vomica are drugs.

One of the most marked tendencies in therapeutics at present is the desire on the part of thoughtful physicians for full information as to the composition and strength of the drugs they use. The specious arguments for secrecy as to the composition of drugs on the ground that there are proprietary rights to be protected now receive little attention from physicians who have a proper sense of duty to their patients. Certain manufacturers advanced such arguments a few years ago in justification of their use of wood alcohol as a substitute for ordinary alcohol in some tinctures.

Manufacturers learned long ago that in purchasing crude drugs for the purpose of separating alkaloids (quinin and morphin, for example) simple inspection or even microscopic examination was not sufficient to insure a good yield; chemical assay was necessary. Pharmacists and physicians are also realizing more and more the need of some kind of assay for most drugs. It is being recognized, for example, that the value of ergot and of digitalis can be determined only by means of physiologic testing. The United States Pharmacopeia (eighth revision), recognizing this tendency, has introduced new standards of strength, and methods to confirm them, for over fifty important preparations; among these is one method of physiologic assay (that of serum antidiphthericum).

One of the most valuable drugs recently admitted into the United States Pharmacopeia is thyroid. The introduction of this preparation into medicine represents one of the most distinct advances in therapeutics in recent years. There is, however, a widespread belief (fully justified, we believe) that the various commercial preparations of thyroid vary considerably in strength. At present there is no generally recognized method of determining their strength, save by the very tedious and time-consuming one of testing them clinically. One of the objects of this paper is to discuss what seems to be a feasible method of determining the physiologic activity of thyroid preparations and to suggest a method of standardization which would insure preparations of definite, or, at least, of known strength.

The general principles of drug assay are too well known to need special discussion. The simplest and most satisfactory method is the one of chemical assay. This method is possible only when it has been determined that the chief therapeutic value of a drug is dependent on one or more constituents which can be determined quantitatively with a fair degree of accuracy.[1]

In other cases the method of assay of a drug is much more direct; thus the value of diphtheria and tetanus antitoxin can be determined only by inducing in lower animals a condition at least similar to the one to be treated in man and then determining the curative effect of the antitoxin. With other drugs different forms of assay are used; thus the effect of digitalis on the frog's heart or that of ergot on the cock's comb are known to give a truer indication of the therapeutic value of these drugs than any chemical method or isolated clinical tests.

None of the above methods, however, is as yet applicable to the standardization of the thyroid. The active constituent is not sufficiently well known to admit of chemical assay and there is no physiologic test sufficiently simple and direct to admit of practical use for this purpose. At present the physician is compelled to determine the value of a thyroid preparation directly on the patient and thus risk giving too little or too much. Not only is time often lost by these trials, but the tests have to be repeated whenever a new preparation is used.

THE RELATION OF IODIN TO THE PHYSIOLOGIC ACTIVITY OF THE THYROID.

The most characteristic constituent of the thyroid from the chemical standpoint is iodin. This element is present in a peculiar and unknown form of combination. The question has often been raised if the amount of iodin may not be taken as an index of the activity of the thyroid. This question has been answered in various ways. The earlier writers (Baumann, Roos, Oswald) maintained that the activity of the thyroid was directly

* Read in the Section on Pharmacology and Therapeutics of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

1. As knowledge progresses it becomes evident that in some cases ordinary chemical methods do not suffice to give full information concerning a drug. Thus, two samples of scopolamin may be equally pure, but one may have twice the activity of the other on the peripheral nerve endings. Careful studies by Cushny show that the more active preparation is strongly levorotatory, whereas the one which is less active physiologically is less active optically. The two preparations, however, are equally active as sedatives and hypnotics. Ignorance of these facts has led to much confusion, which has been taken advantage of by certain manufacturers engaged in the exploitation of scopolamin under the old name of "hyoscin."

dependent on and proportional to the iodin content; they reported experiments in favor of this view, but these were few in number and the results were not very satisfactory quantitatively. Several more recent writers (notably Jolin), on the other hand, have taken the view that there is no relation between the activity of the thyroid and the iodin content and hold that the iodin should be considered rather as an accidental constituent, as seems to be the case with the copper usually found in the liver. The arguments on which this view is based are derived largely from what may be called statistical studies. Thus it has been found that iodin can frequently not be detected in the thyroid of animals apparently in good health, but that nevertheless removal of the thyroid in such animals is followed by the same symptoms as in those whose thyroids contain iodin. Recent studies by Marine and by Marine and Williams along somewhat analogous lines have, however, shown that there is a very definite relation between the percentage of iodin and the structure and efficiency of the thyroid. In any case it is evident that studies of this character have not a very direct bearing on the subject now under discussion, namely, the use of thyroid as a drug. Whatever may be the relation of the iodin to the thyroid in the body, the same relation may not hold when the thyroid is given by the mouth as a remedial agent.

There is, finally, a third view on this subject which combines the two already discussed. The adherents of this view admit that there may be a parallelism between the percentage of iodin and the physiologic activity, but do not admit that this is a causal relation. They think that the more active the gland the larger the amount of iodin with which it can combine. Under these premises the percentage of iodin might, but would not necessarily, be an index of the physiologic activity of the thyroid. The amount of the iodin would depend in part on how much of this element had been available in the food. We consider this view, for reasons given later, untenable.

On the whole, the evidence at present available points to the conclusion that the activity of thyroid is generally parallel with the iodin content and that the latter may be used as a basis of assay. There is also a certain amount of clinical evidence that iodin-rich thyroid is more efficient in the treatment of certain forms of goiter than is the iodin-poor thyroid (Roos). In this connection there are, however, a number of unsolved problems. In the first place the above conclusions were based on very few experiments, and these were performed by methods which do not admit of accurate quantitative results. There is nothing to indicate whether all of the iodin in the thyroid is in a physiologically active combination. Further, the question has as yet never been answered whether, after all, the parallelism observed between the percentage of iodin and the physiologic activity may not be a mere coincidence and without causal connection. In the following study an attempt will be made to answer some of these questions.

METHODS.

The explanation of the fewness of the experiments on these problems is that up to the present there has been no method of measuring with ease and accuracy the physiologic activity of thyroid. We believe that we have found such a method in the effects of thyroid feeding on the resistance of animals to certain poisons (chiefly acetonitrile and morphin). One of us has already published an account of this method and discussed some of the results obtained.[2] These results may be summarized as follows:

1. Iodin-free thyroid has a low degree of physiologic activity.

2. The presence of even a very small percentage of iodin (in proper combination) markedly increases the physiologic activity of the thyroid.

3. Within certain limits the amount of one of the above-mentioned poisons (acetonitrile) which the organism can neutralize as a result of feeding thyroid is directly proportional to the percentage of iodin contained in the thyroid; in many experiments a given amount of thyroid containing 0.2 per cent. of iodin enabled a mouse to recover from twice as much acetonitrile as did a preparation with but 0.1 per cent. of iodin. Moreover, to obtain equal results with these thyroid preparations it was necessary to give twice as much of the iodin-poor thyroid as of the iodin-rich thyroid. In but one case did we find an exception to the general rule that the greater the percentage of iodin the greater the degree of physiologic activity. In many cases the results were not so sharply quantitative as in the experiments mentioned above. This was not, however, a matter of surprise, for it is rare to find a drug which in twice the dose will produce twice the effect. With each preparation of thyroid there is a dose which produces a maximum effect; as the doses approach this maximum the differences between the physiologic activity of successive increments become progressively less. The curve showing these facts graphically is a parabola.

By working with doses of thyroid well below the maximal, however, and by paying careful attention to details, it was usually possible to obtain quantitative results. We have repeatedly found that by comparing various doses of a thyroid preparation of unknown iodin content with another of which the percentage of iodin was known, it was possible to determine the percentage of iodin almost as accurately as by chemical analysis. In these experiments the analyses were made by one of us without any knowledge of the physiologic work of the other and the results compared afterward. Such results were obtained not only with the dry thyroid powders but with complex mixtures, such as certain secret "anti-fat remedies" and "protonuclein" containing thyroid.

THE NATURE OF THE RELATION OF THE IODIN TO THE ACTIVITY OF THE THYROID.

The above experiments show that there is a parallelism between the iodin percentage and the physiologic activity of the thyroid. We may now discuss the nature of this relation. As already pointed out, some authors admit this parallelism, but hold that the iodin is present in some thyroids in larger amount because of the greater activity of the thyroids—that is, that the more active the thyroid, the larger the amount of iodin it can hold in combination. On this hypothesis we should expect to find at times thyroid poor in iodin but very active physiologically, for it is evidently largely a matter of chance whether the food of an animal contains iodin in sufficient amount to raise the percentage in the thyroids to a maximum. We have, however, not found a single specimen of thyroid poor in iodin and high in degree of physiologic activity.

This problem may be approached also from the experimental side by administering iodin to animals and seeing

2. Hunt: THE JOURNAL A. M. A., 1907, xlix, 1323. These experiments will soon be published in detail in a Bulletin of the Hygienic Laboratory.

if with the increased percentage of iodin in the thyroid there is increased physiologic activity. Roos reported several years ago one experiment of this nature. His conclusion is that thyroid the iodin content of which is thus increased shows increased physiologic activity. Roos' experiment is, however, open to certain criticisms. Thus the administration of iodin was continued for eighteen days; it is possible that the iodin had simply stimulated the thyroid to increased growth and that the increased physiologic activity was due to this and not to the increased percentage of iodin which it contained. In our experiments iodin (in the form of potassium iodid or iodoform) was administered but twice, namely, on two successive days, and the animals (dogs) were killed on the day following the second dose. The thyroids of dogs so treated contained from two and one-half to three times as much iodin as those of the controls; the physiologic activity of the former was from two to three times as great as that of the latter. Any other supposition than that the increased physiologic activity of the thyroid in these experiments was due directly to the iodin which had been taken up by the thyroid is highly improbable.

IS THERE "INACTIVE" IODIN IN THE THYROID?

It is generally admitted that if the physiologic activity of the thyroid is dependent on the iodin it is because the latter is in some special form of combination. It is possible to add iodin to the thyroid or its colloid *in vitro* until the percentage is increased many times; such an artificially iodized colloid is not more active physiologically than the original iodin-poor colloid. These results suggest the question whether iodin may not at least sometimes be normally present in the thyroid in an inactive form. If this were the case it is evident that the physiologic activity of a thyroid preparation could not always be predicted from its iodin content. We have found little evidence in support of this supposition; even in pathologic conditions (colloid and cystic goiters) the iodin seems to be present largely in a physiologically active form.

So sharp have been the results of our experiments on this subject that if we found thyroid with a high iodin content but with a low degree of physiologic activity we should not hesitate to say that it was adulterated with iodin or some compound of iodin; we know, however, of no such preparation on the market. We have, however, found commercial preparations of iodothyrin which contained a considerable amount of iodin but which had a low degree of activity. We believe that this indicates a partial decomposition of the iodin compound during the process of manufacture. In this connection we may state that there are simple chemical tests by which the presence in a thyroid preparation of artificial iodin compounds may usually be detected. In doubtful cases the physiologic test would give a positive answer.

We believe that the above experiments and considerations strongly support the view that the therapeutic value of a thyroid preparation is dependent on the percentage of iodin in proper combination. It is very desirable that the subject be reinvestigated from the clinical side; for this purpose it is necessary to have preparations of known iodin content. At present there seems to be but one preparation on the market for which a definite iodin content is claimed; but it is believed that there are a number of manufacturers who would be willing to determine and state the percentage of iodin of their products. Such a statement would at least enable the physician to regulate the doses more accurately than at present. Ultimately it may be desirable for the Pharmacopeia to fix a standard. Most of the preparations on the American market vary in percentage of iodin from 0.1 to 0.2; possibly a requirement of not less than 0.12 per cent. would be reasonable for the dried powder.

COMMERCIAL THYROID PREPARATIONS.

Thyroid Powder.—Many analyses have been published showing the wide variations in the percentage of iodin in desiccated sheep thyroid (the form usually used in medicine). The most striking figures for the United States are those of Koch,[3] according to which glands collected during the winter months may contain as much as three times the amount of iodin as those obtained in June and July. Marine and Williams[4] found the iodin content of normal or supposedly normal glands to vary from about 0.109 to 0.177 per cent. In our extensive series of analyses of commercial thyroid powders we have found the percentage to vary from slightly less than 0.1 to slightly more than 0.2. The percentage of iodin contained in the thyroid of different tablets was found to show greater variations, viz., from 0.084 to 0.32; this is on the assumption that the tablets contained the amount of thyroid claimed. Thus it is evident that if the iodin percentage is a true index of activity, some commercial thyroids are from two to four times as active as others. The use of such preparations would seem to be as illogical as would that of preparations of Fowler's solution showing variations of 400 per cent.

Thyroid Tablets.—We have endeavored to show in the above that there is an element of uncertainty as to dosage, owing to variations in the percentage of iodin when ordinary commercial thyroid is prescribed. This uncertainty is much increased when physicians state that they prescribed "two thyroid tablets" or a "five-grain tablet" or "five grains of thyroid" in tablet form, for the dosage of commercial tablets is expressed in different terms by different manufacturers. Thus one firm's "five-grain tablet" means a tablet weighing five grains, but containing two grains of dried thyroid; another firm's "five-grain tablet" means that the tablet contains the equivalent of five grains of the fresh gland. The "two-grain tablets" of another firm means that each tablet contains two grains of dried thyroid, equivalent to ten grains of the fresh thyroid. In many cases it is evident that when a physician writes of prescribing five or ten grains of thyroid he means that he prescribes dry thyroid equivalent to five or ten grains of the fresh gland, although in other cases he may mean five grains of the dried gland. Those who simply speak of prescribing so many "tablets," without further specification, probably have no clear idea of how much thyroid they are giving. Inasmuch as some thyroid tablets contain twice as much thyroid as others, and further since some samples of dried thyroid have two to four times the activity of other samples there is a possibility of the effect from one tablet being four to eight times as great as that from a tablet of another make.

Since thyroid is seldom, if ever, prescribed in the form of the fresh gland, there seems to be no reason for continuing the references to the amount of fresh thyroid which a tablet represents; such a procedure

3. Proc. Am. Pharm. Assn., 1907, lv, 371.
4. Arch. Int. Med., 1908, i, 378.

only causes confusion. The physician is also not particularly concerned with the amount of inert material used in the preparation of a tablet; such expressions as a "five-grain tablet containing two grains thyroid U.S.P." is likely to lead to confusion.

Iodothyrin.—Baumann separated from the thyroid a substance, iodothyrin, which he believed to represent the full physiologic activity of the gland, even if it could not properly be called the "active principle." Baumann brought forward strong evidence, both experimental and clinical, in support of this contention. A preparation of iodothyrin, made according to Baumann's method, has been on the market for several years, but it has apparently been a disappointment and has not come into very general use. The explanation of this is not far to seek if the three preparations we have examined may be taken as fair representatives of the commercial products. These samples all contained about the same percentage of iodin, but whereas one gave no reaction for loosely combined iodin (treatment with concentrated nitric acid in the presence of starch paste), and another only a moderate reaction, the third gave this reaction very strongly. As is well known, the iodin is in very firm combination in the thyroid and in true iodothyrin; hence from these chemical differences we expected to find differences in physiologic activity. As a matter of fact, the sample of iodothyrin with the firmly bound iodin had the full activity of thyroid containing an equivalent amount of iodin. In several experiments the iodothyrin seemed to be more active than an equivalent amount of thyroid, an observation similar to that made by Baumann. One of the other samples (with loosely bound iodin) was about one-third as active physiologically, while the third specimen was still weaker. There had apparently been much decomposition in the preparation of the iodothyrin.

Proprietary Preparations Containing Thyroid.—Antifat Remedies.—The thyroid, like almost all other drugs the value of which physicians have discovered, has passed rapidly into the hands of the laity and is now probably used more extensively without than with medical advice. The "patent medicine" manufacturers (and also those of "ethical proprietaries" as we shall see) have "combined" it with, or rather have concealed it in, various mixtures for which extravagant prices are asked. Among the substances with which it is mixed are tamarinds, toasted bread, licorice powder, poke-root, bladderwrack, etc. It is brought on the market in these mixtures under various fanciful, often misleading, names. The advertisements of such preparations are often found in the lower classes of newspapers, frequently accompanied by "fake" or "freak" photographs of "before" and "after" taking (more truthfully before and after the changing of the lenses in the photographer's camera). Among the most widely advertised of these preparations which give the chemical and physiologic tests for thyroid are "Rengo," "Kellogg's Obesity Food," "Arbolum Mixture," and "Marmola." The latter is put up in a form almost identical with that of many "physicians' proprietaries," and contains the following directions on the label: "Doctor: Marmola is a Scientific and Effective Preparation for the Reduction of Fat . . . insist on getting this original unbroken package . . . the best results are obtained from Marmola when prepared as follows." Then follows a prescription calling for Marmola and some ordinary drugs.

Like all "patent medicines," these mixtures are stated to contain nothing "harmful or deleterious to health"; Rengo is to be eaten "like you would candy or fruit."

This phase of the history of thyroid is very similar to that of acetanilid. The physiologic effects of both were discovered by physicians. The medical profession quickly appreciated the dangers connected with their use and learned to use them more cautiously; many physicians have practically abandoned them for safer remedies or have restricted their use to cases where they are indispensable (thyroid in cretinism, etc.). In nearly all countries acetanilid is classed as a poison and the same restrictions are placed on the sale of thyroid as on that of other powerful drugs. In the United States, however, acetanilid is sold at the soda water fountains and thyroid is distributed by the mail-order houses. Commercial chemists, pharmacists, and even laymen, notwithstanding their ignorance of the first principles of diagnosis and therapeutics, unite in instructing both the physicians and the laity as to the safety and physiologic action of these powerful drugs which the physician has discovered.

Protonuclein.—Very similar in many respects to the above "patent medicines" is the "ethical proprietary" "Protonuclein." Protonuclein is a diluted thyroid preparation; samples examined by us, chemically and physiologically, were found to contain the equivalent of 10 per cent of thyroid containing 0.1 per cent. iodin. (The actual amount of thyroid may be greater or less, as we do not know the percentage of iodin in the thyroid used; but the mixture contained 0.01 per cent. iodin and has one-tenth the physiologic activity of a thyroid preparation containing 0.1 per cent. iodin.)[5] The dose recommended on the bottle is six to twelve grains every three or four hours; this represents six-tenths to one and one-fifth grains of many commercial thyroid powders. The presence of this thyroid is as skillfully concealed as it is in the case of "Rengo" or "Marmola"; yet the amount in a dose does not differ materially in the three preparations. Protonuclein is stated to be a "Tissue-Builder," "Resistant to Toxic Influences, is indicated in all conditions when the organism is below the normal standard." "Special conditions: neurasthenia, exhaustion, wasting diseases, anemia, marasmus, malaria, asthenia and as a general antitoxic agent." It is stated to be "a perfectly harmless antitoxin, tissue-builder, blood-purifier and digestant"; it "represents the active principles of life." Is more claimed for any "patent medicine" advertised in the daily papers? Yet this is one of the many proprietary preparations the advertisements of which fill the pages of the lower class of medical journals. It must seem to any thinking physician extraordinary advice to recommend the administration of a preparation containing thyroid, the most powerful tissue-destroying drug known, to patients suffering from typhoid or phthisis—conditions in which the physician is supposed to be exerting every effort to build up the tissues. However diluted the thyroid may be and with whatever other "active principles of life" (!) it may be mixed, no conscientious physician would care to use it unknowingly.

Twenty-fifth and E Streets N. W.

5. "Protonuclein Special," recommended chiefly for local use or internally in half the dose of the ordinary protonuclein, is stated to "represent the pure nuclein and nucleoalbumen unmixed with milk sugar." It contains twice as much thyroid as the ordinary powder. Like arbolum, etc., it is stated to be "perfectly harmless."

ABSTRACT OF DISCUSSION.

DR. TORALD SOLLMANN, Cleveland, O.: Dr. Marine of Cleveland, by an entirely different method, has arrived at conclusions practically identical with those of Dr. Hunt as to the dependence of the thyroid on its iodin content. Taking up a somewhat different phase of the subject he finds that the physiologic structure of the gland corresponds to the iodin content. This is, therefore, an index of the degree of activity. This means that preparations containing a low amount of iodin have been taken from the thyroids of diseased animals, and in using them we are giving homeopathic treatment—giving diseased thyroid to cure diseased thyroid. I think that this is a very important point and that manufacturers have not paid to it the attention which they should. By mere inspection, they can recognize the thyroids which are of normal iodin content and these alone should be used. Thyroids of low iodin content are probably of little value and perhaps harmful.

DR. FRANK T. F. STEPHENSON, Detroit, Mich.: I have been doing some clinical experimental work on thyroids in combination with the sulphocyanids. My attention was drawn to this line of work by the writings of Pauli, an Italian author. He calls attention to the fact that there is a sort of complementary relation in the sulphocyanid in the saliva to the metabolism of the body, and mentions some probable reasons for its existence in the animal economy. If some of the members of this Section are looking for a fruitful field of work, a little investigation on the sulphocyanids in relation to animal economy offers possibilities. I am sure, after six months' experimental work of my own, that such a research will offer many interesting facts, but I have nothing to report now. I have a patient, a retired photographer, who a little while ago weighed 319 pounds. He has been receiving a large amount of advertising from a quack of Battle Creek, Mich., in reference to an obesity cure. A woman came to him to have her picture taken and then wanted a fake picture showing her very fat, which was worked by padding her out with pillows, etc. She stated that she wished to send this picture to some relatives out west as a joke. My patient recognized the cuts in some advertisements as made from this photograph. It was rather unfortunate for the quack that the cuts should come back to the very photographer who made the picture, and was in need himself of obesity treatment. The Marmola people are not taking any chances of not getting results. They have loaded their product with a large amount of thyroid as well as with *Phytolaca decandra*. The manufacturers are a Detroit concern, "we are proud to say." They have recently consulted me to see whether they can not use some preparation of thyroid other than the sheep's thyroid, as they are finding this rather expensive. They thought of trying the thyroid of the calf.

MR. F. C. KOCH, Chicago, Ill.: The commercial thyroid preparation I examined was the desiccated product from normal sheep's glands, as we discard all the goitrous ones. I found, as Dr. Hunt says, a variation of 300 per cent. in the iodin content, it being highest in the winter and lowest in the summer months. I am now continuing this work on the thyroids of other animals in order to see whether we find the same variation there.

Treatment of Alopecia with Venous Hyperemia.—Several French dermatologists have reported good results in treatment of alopecia areata by application of an elastic band around the skull just above the ears or around the neck. In a recent communication to the French Dermatologic Society, Troisfontaines reported three typical cases. One of the cases was that of a boy, thirteen years of age, who wore the elastic band drawn so tight that the top of the skull was very much congested, the band concealed by his cap. All the bald patches rapidly became covered with hair, while the patches at the back of the neck below the band or compressed by the band still remained bald. In this case the band was worn for two six-hour periods during each twenty-four hours.

MIOTICS VERSUS IRIDECTOMY IN THE TREATMENT OF SIMPLE CHRONIC GLAUCOMA.

AN ANALYTICAL STUDY OF 65 CASES TREATED BY MIOTICS OVER A SERIES OF YEARS.*

WILLIAM CAMPBELL POSEY, M.D.
PHILADELPHIA.

In 1906 I presented a paper before the Section on Ophthalmology on "The Treatment of Simple Chronic Glaucoma by Miotics",[1] in which attention was called to the very satisfactory results which attend the use of these drugs in this variety of glaucoma, and their more intelligent and persistent administration was urged. It was pointed out that "while the results of operation are known to be less favorable in simple chronic glaucoma than those obtained in other forms of this disease, yet it is almost commonly conceded that even in this type iridectomy gives a better chance for retaining vision than any other form of treatment."

It was questioned, however, whether there is positive evidence that miotics are of less value than iridectomy in the treatment of chronic glaucoma, as no statistical study had ever been made of a series of cases of this variety of glaucoma which had been treated by miotics long enough or in sufficiently great numbers to permit a comparison to be made with series of cases which had been operated on by iridectomy. I referred, in this connection, to a study which had been made of 167 cases of chronic glaucoma taken from the records of the Wills Eye Hospital, by Dr. William Zentmayer and myself in 1895, and I remarked that while many of these cases had been observed over a very protracted period, the miotics which were employed were doubtless administered indifferently in many instances, so that the full advantage which might have been gained from them was not obtained in any of the cases.

Notwithstanding this failure to obtain a maximum effect from the miotics, the comparison which was made between the medicinal and operative form of treatment, and which was based on a careful analysis of all the cases, was very favorable to the former.

Among the conclusions which were arrived at may be cited the following:[2] "When the drug was well borne it was found that the central visual acuity improved in 62.16 per cent. of the cases, while it remained unaltered in 21.62 per cent. In only 16.21 per cent. did the vision diminish, the drug being powerless to prevent it. Its influence on the extent of the visual field was not so great as on the degree of visual acuity, for an improvement was noted in the former symptom in but 50 per cent. of the cases. The field remained stationary in 18.75 per cent., while in 31.25 per cent., it steadily diminished. Contrasted with these figures are those obtained from a study of the cases on which iridectomy was performed. As a result of this procedure, vision was improved in 60 per cent., and remained the same in 20 per cent. of the cases. In another 20 per cent. the operation failed to prevent the loss in visual acuity. The extent of the visual field was increased in 30 per

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*Because of lack of space, this article is here abbreviated by the omission of the histories of the cases and the diagrams of the fields of vision. The complete article appears in the Transactions of the Section and in the author's reprints.

1. THE JOURNAL A. M. A., 1907, xlviii, 676.
2. Wills Eye Hosp. Rep., 1895, i, No. 1.

cent., and remained unchanged in 20 per cent. and diminished in 10 per cent."

The limitations of these conclusions were, however, recognized, though it was asserted that from observations which I had made over a very considerable number of cases, both in private and dispensary service, since the publication of the report 12 years previously, that I was convinced that were it possible to compare an equal number of cases which had been subjected to iridectomy and to the action of miotics, properly administered over a similar period, the results would be shown to be far greater in favor of the former.

The present communication is offered in proof of this assertion, inasmuch as I have been enabled to collect sufficient and suitable data from cases of simple chronic glaucoma treated by miotics, which were observed in my own practice and from notes generously given me by colleagues, to render a comparison with a similar series of cases treated by iridectomy possible.

I desire at this point to publicly acknowledge my indebtedness to the gentlemen who aided me with their cooperation, as without their notes, such a statistical study would have been impossible, for one observer can scarcely acquire sufficient data from his own practice to draw conclusive results. As a rule, only private cases can be depended on for statistical purposes, for there are but few hospital patients who can be trusted to follow the miotic treatment. Again, chronic simple glaucoma is uncommon, and since as a rule, it affects those who are advanced in years, death often ensues before observations can be extended over many years, even when the subjects of the disease remain constant in their attendance on one surgeon.

TABLE I.

Showing Length of Time Under Observation.

16 years	1 case
15 years	2 cases
13 years	3 cases
12 years	2 cases
11 years	2 cases
10 years	2 cases
9 years	1 case
8 years	5 cases
7 years	4 cases
6 years	6 cases
5 years	7 cases
4 years	8 cases
3 years	6 cases
2 years	9 cases
1 year	7 cases

Sixty-five cases have been analyzed, all, so far as it was possible to ascertain, being pure types of simple chronic glaucoma. It is necessary, however, to refer once more to the difficulty there is in distinguishing between this variety of glaucoma and atrophy of the optic nerve with excavation. All of the cases which are reported, however, manifested increased intraocular tension at some time while they were under observation, and all were observed sufficiently often to enable the diagnosis to be established as convincingly as the present state of our knowledge of the pathology of the two affections renders possible.

All were treated by miotics, in most instances in sufficient dose to keep the pupils very small, the strength of the drug being increased from time to time to secure this, which is so essential in order to obtain the desired effect on the intraocular tension.

All but seven of the cases were observed over a period of two years; 12 had been carefully followed for more than 10 years.

The average period of time each patient was under observation was five years and eight months.

As most advocates of iridectomy in simple chronic glaucoma urge the necessity of early operation, and as it is generally recognized that the treatment and the prognosis of the affection is much influenced by the stage in which the disease comes under observation, I have divided the cases into three classes, according to their degrees of development: (1) Beginning cases; (2) moderately advanced cases; (3) very advanced or desperate cases.

Of the total number, 19 are recorded as beginning cases, 28 as moderately advanced and 7 as far advanced cases. The histories of 8 cases are added in which iridectomy had been done on one or both eyes, but always in conjunction with the employment of a miotic. Finally, the notes of two additional cases are given: Of one case, because, though many of the signs of glaucoma were present, the diagnosis of the true nature of the case is in doubt, and of the other as it demonstrates the slow progress of the disease, even without treatment.

Observations could be made of but 110 eyes, 13 out of the 130 which were presented for examination being blind or nearly so from glaucoma, while in two instances the eye was blind from other causes, i. e., sarcoma of choroid and phthisis bulbi. Five eyes were normal.

Of the 110 glaucomatous eyes it was found that vision had either improved or held its own during the entire time the case was under observation, over a varying period of years, in 88 eyes, or 80 per cent; that there had been a slow deterioration in both central and peripheral vision in 13 eyes, or 11.8 per cent., while in 9 eyes (8 per cent.) the miotics seemed to exert no influence whatsoever on vision, the eyes going gradually blind, and passing into absolute glaucoma. The form field was maintained as long as the case was under observation in 51 eyes, or 45 per cent. Loss in form field was observed in 59 eyes, or 55 per cent. The average length of time vision was maintained in each case was 5 years and 3 months.

TABLE 2.

Vision and field improved in 3 eyes for a period of 2 years.
Vision and field improved in 1 eye for a period of 5 years.
Vision improved but field contracted in 1 eye during period of 1 year.

TABLE 3.—NORMAL VISION AND NORMAL FIELD MAINTAINED.

Beginning cases.

In 4 eyes for 13 years.	In 4 eyes for 5 years.
In 2 eyes for 12 years.	In 3 eyes for 4 years.
In 2 eyes for 11 years.	In 2 eyes for 3 years.
In 1 eye for 8 years.	In 3 eyes for 2 years.
In 1 eye for 7 years.	In 2 eyes for 1 year.
In 2 eyes for 6 years.	

TABLE 4.—NORMAL VISION MAINTAINED, BUT WITH CONTRACTED FIELD.

(a) *Beginning Cases* (11).	(b) *Moderately Advanced Cases* (23).
In 1 eye for 16 years.	In 1 eye for 15 years.
In 1 eye for 10 years.	In 2 eyes for 12 years.
In 1 eye for 8 years.	In 3 eyes for 3 years.
In 3 eyes for 6 years.	In 1 eye for 6 years.
In 1 eye for 5 years.	In 3 eyes for 5 years.
In 4 eyes for 4 years.	In 4 eyes for 4 years.
	In 4 eyes for 3 years.
	In 4 eyes for 2 years.
	In 1 eye for 1 year.

(c) *Far Advanced Cases* (2).

In 1 eye for 15 years.
In 1 eye for 4 years.

TABLE 5.—BOTH CENTRAL VISION AND FIELD REDUCED AT TIME OF COMMENCEMENT OF TREATMENT, BUT BOTH MAINTAINED WHILE CASE WAS UNDER OBSERVATION.

(a) *Moderately Advanced Cases* (13).	(b) *Far Advanced Cases* (7).
In 2 eyes for 8 years.	In 1 eye for 3 years.
In 2 eyes for 5 years.	In 5 eyes for 2 years.
In 3 eyes for 4 years.	In 1 eye for 18 months.
In 4 eyes for 4 years.	
In 2 eyes for 2 years.	

TABLE 6.—SLOW DETERIORATION IN BOTH CENTRAL AND PERIPHERAL VISION.

(a) *Beginning Cases* (4).	(b) *Moderately Advanced Cases* (9).
In 2 eyes for 8 years.	In 2 eyes for 10 years.
In 2 eyes for 4 years.	In 2 eyes for 8 years.
	In 3 eyes for 2 years.
	In 1 eye for 1 year.
	In 1 eye for 2 months.

TABLE 7.—MIOTICS POWERLESS TO PREVENT LOSS OF VISION, BLINDNESS ENSUING.

1 eye	going blind in 6 years (beginning case).
1 eye	going blind in 5 years (moderately advanced).
1 eye	going blind in 4 years (moderately advanced.)
2 eyes	going blind in 3 years (moderately advanced).
2 eyes	going blind in 2 years (beginning case).
1 eye	going blind in 2 years (moderate).
1 eye	going blind in 18 months (moderate).

Iridectomy was performed on 11 of the 68 cases. Two doubtful cases maintained vision 3 years. Four beginning cases maintained vision 14 months (miotics useful in other eye); one, 6 years (miotics useful in other eye); another, 18 months (miotics useful in other eye); iridectomy powerless in one case.

Five moderately advanced cases: Maintained vision 2 years in 1 case after visual acuity had been raised by miotics; 6 months in 1 case after miotics had failed; 10 months in 1 case after miotics had failed; 1 year in 1 case after miotics had failed; 6 months in 1 case after miotics held the disease in check 3 years.

Such are the figures obtained from an analysis of 110 eyes treated by miotics. The interesting question now arises, how do they compare with similar series treated by iridectomy?

Fortunately, there are available for this purpose two groups of cases which are admirably adapted to a comparative study, for Bull, of New York, in 1902, gave the postoperative history of 50 cases of simple chronic glaucoma, before the American Ophthalmological Society, and last year before the same society gave the history of 60 additional cases. All of the cases of both groups had been under observation for varying periods and all occurred in Bull's own practice. This series, therefore, possesses a peculiar value, as the expression of the personal experience of one of America's most eminent surgeons and observers, and may be taken as a fair index of the maximum effect which may be gained by iridectomy.

In Bull's first series (50 cases, 94 eyes iridectomized), there was a maintenance of the existing vision at the time of operation while under observation in 24 eyes, or 25.5 per cent., and a gradual failure in 58 eyes or 61.7 per cent. The average length of time the maintenance of vision was noted in any given case was 2 years and 5 months.

The form fields remained as they were at the time of operation in seven cases (14 per cent.), which were under observation for a period ranging from 15 months to 11 years, but became more contracted in 60 eyes. Absolute glaucoma resulted in 11 eyes. Total loss, 75.5 per cent. Average length of time each case was under observation was 4 years and 11 months.

In Bull's second series (60 cases, 115 eyes iridectomized), the average length of time each case was under observation is not mentioned, the general statement being made of from 5 to 11 years.

Vision—Temporary improvement in central vision in 14 eyes, 12 per cent.; no permanent improvement in central vision in any eye; maintenance of vision for a period of years (the longest being 8 years) in 21 eyes, 18 per cent.; gradual failure in central vision in 94 eyes, about 70 per cent.

Field—No maintenance of field while case was under observation in any case. Steady increase in the concentric narrowing of the field in 92 eyes. In 16 eyes the final result was absolute glaucoma. Total in which field sank, 108 cases, or 90.3 per cent.

Summary.—Apparent arrest of the progress of the disease as to central vision, condition of the field and tension in 21 eyes, or 18.2 per cent.; 16 eyes passed into absolute glaucoma.

When comparison is made of both of these series with that analyzed by me, it will at once appear that miotics exerted a much more beneficial influence than iridectomy. Thus, if central vision is considered, it will be found that in my series, each case of which was observed over an average period of 5 years and 8 months, vision was maintained in 80 per cent. of the cases, to 25 per cent. in Bull's first series and to 18 per cent. in his second; while there was a loss of central vision in 20 per cent. of my cases to 61 and 70 per cent. of Bull's first and second series respectively, each case in his first group being observed over an average period of 2 years and 5 months, while those in the second group were noted as being observed over a period ranging from 5 to 11 years.

Miotics exerted a more favorable influence on the form field also than iridectomy, the field being maintained as long as the case was under observation (each case an average of 5 years and 8 months) in 45 per cent. of my series, while the same was true of but 14 per cent. of Bull's first series (over an average period of 4 years and 10 months for each case), while in the second series there was no maintenance of the field while the case was under observation in any instance. In Bull's first series, 11 eyes passed into absolute glaucoma, in the second, 16 eyes, while in my series only 9 eyes became totally blind.

There are other groups of cases, also, which may be used for purposes of comparison. Of these by far the most interesting for the purposes of this paper are the observations of Schleich, in Tübingen, which were based on the study of 102 cases which had been iridectomized and of 46 cases treated by miotics. In the series of cases which were submitted to operation, vision became worse immediately after the iridectomy in 30 per cent. of the cases, and of this number 26 per cent. became totally blind in a short time, the remainder growing gradually worse, with the exception of 3 per cent, in which vision after the first loss was maintained. Of the 70 per cent. who did not show an immediate deterioration of vision after the operation, sight remained unchanged for 2 years and even longer in 21 per cent., but there was a gradual loss in 79 per cent. In other words, 7.8 per cent. became blind directly or shortly after the operation; vision gradually failed in 76.5 per cent., being maintained in only 15.7 per cent. for a period of at least 2 years. In the 46 cases treated by miotics, the results were more favorable, as vision was maintained in 39 per cent., progression of the disease being observed in the remaining 61 per cent.

Another valuable communication is by Karrewiz, who reviewed the operations performed for the relief of glaucoma by Koster, in the Ophthalmic Clinic in Leyden during a period of 10 years. The results obtained in other forms of glaucoma are foreign to the scope of this paper and will not be dwelt on, of 20 eyes, however, with chronic glaucoma, which were iridectomized, record is made that vision was improved or remained *in statu quo* in 75 per cent. and diminished in 25 per cent.

Of the 75 per cent. in which loss of vision did not follow the operation, the visual acuity soon diminished in 74 per cent. of the cases, a lasting improvement being observed in but 26 per cent. Tension remained normal in 79 per cent. of the operated cases, increasing after the operation in 11 per cent. from various causes. Notwithstanding the good effect on tension, the vision in 53 per cent. of the cases, in which tension was benefited, deteriorated.

Although giving no figures to support his statement, Koster's experience with miotics in patients refusing operation leads him to conclude that while there are cases which can be held in abeyance by drugs, they are very exceptional, and that under their use glaucoma progresses steadily. He admits their value, however, both before and after operation.

In a discussion on the therapy of glaucoma before the Hungarian Ophthalmological Society, Grosz of Budapest reported that of 237 cases of glaucoma operated on by him, and which were under observation for a long time after the operation, 62 cases were instances of glaucoma simplex and success was attained by operation in 70 per cent. of the cases. In the discussion Béla insisted on the necessity of keeping the eyes under the full control of miotics, and Csopodi reported a case of glaucoma simplex in which good vision had been preserved for 4 years in one eye, the other eye which had been iridectomized being blind from glaucoma.

Strong evidence in favor of the beneficial effect of iridectomy in simple glaucoma is advanced by von Hippel, of Göttingen, who based his statistics on the study of 58 patients with 74 glaucomatous eyes taken from among a total of 70,000 eye cases. Iridectomy was performed 65 times, sclerotomy 6 times and iridectomy with a later sclerotomy 3 times. Of this number only 66 eyes, for various reasons, could be utilized in preparing statistics. von Hippel is of the opinion that the long continued use of miotics in chronic glaucoma is dangerous, inasmuch as it obscures the symptoms and prevents iridectomy being done sufficiently early. He believes that they should not be used before the operation, therefore, but employs them regularly and continuously after operation, as he is convinced that they exert an appreciable effect in preventing the progress of the glaucomatous process. In no case was central vision diminished by the operation, notwithstanding that many of the cases operated on by him had markedly contracted fields and pronounced cupping of the disc. The summary deduced by von Hippel from his statistics is as follows: Forty-one per cent of the cases operated on showed no aggravation of symptoms after 2 years; 20 per cent. showed none after 5 years; 14 per cent. after 10 years, and 9 per cent. after 14 years. He considered that 9 eyes (about 14 per cent.) could be considered "as cured for the present," as 6 showed no loss in vision during a period of 1 to 2 years and 3 during a period of less than a year. A slow loss of vision, however, appeared in 17 eyes (about 26 per cent.). All of these cases could be included under the class designated by me as "moderately advanced." Thirteen eyes (20 per cent.) went blind in spite of iridectomy, though a period of partial vision was attained in half of the cases for a period ranging from 3 to 5 years.

To these statistics should be added the figures mentioned by Uhthoff, in the discussion of Berry's paper before the British Medical Association, in 1904, to the effect that after iridectomy he had found a perceptible improvement of vision in 5 per cent. of the cases. The disease remained stationary in about 45 per cent.; it advanced slowly, in spite of the operation, in approxi-

Table of Comparison of Series of Cases of Chronic Glaucoma Treated by Miotics and by Iridectomy.

	Zentmayer and Posey; 167 Cases.		Posey's series; 110 Eyes. (Miotics.) Per cent.	Bull's First Series; 94 Eyes. (Iridectomy.) Per cent.	Bull's Second Series; 15 Eyes. (Iridectomy.) Per cent.	Schleich.		Koster; 30 Eyes. (Iridectomy.) Per cent.	Grosz; 62 Cases. (Iridectomy.) Per cent.	Uhthoff. (Iridectomy.) Number of Cases not Mentioned. Per cent.	Hippel. 66 Eyes. (Iridectomy.) Per cent.
	Miotics. Per cent.	Iridectomy. Per cent.				102 Cases. Iridectomy. Per cent.	46 Cases. Miotics. Per cent.				
CENTRAL VISION.											
Maintained in. .	84	80	80 on an average of 5 yrs. and 3 mos. in each case.	25 on an average of 2 yrs. and 5 mos. in each case.	18	15.5	39	26	70 "Favorable result attained." Details of what constituted "a favorable result" not given.	50 (Actual improvement of V. in 5).	14 "Cured for the present." 41, no aggravation of symptoms after 2 years. 20, no aggravation of symptoms after 5 years. 14, no aggravation of symptoms after 10 years. 9, no aggravation of symptoms after 14 years.
Gradually lost in	16	20	20	61	70	76.5	61	74		50 (40 gradual; 10 rapidly.)	26, slow loss in vision. 20, went blind in spite of operation.
FORM FIELDS.											
Maintained in. .	68.50	50	45	14	0						
Gradually lost in	31.25	10	55	75	100						
Average period of time each patient was under observation.			5 yrs and 8 mos	4 yrs and 10 mos	5 to 11 yrs.						

mately 40 per cent, and grew much worse in fully 10 per cent.

In the discussion of Schleich's paper, Königshofer said that as years go by he has grown to doubt the value of iridectomy, and he treats all cases first with miotics, iridectomy being resorted to as a last resort. He has even seen loss in the visual fields gradually improve under miotics. Adamük,[3] referring to Wygodski's contention that it is necessary to operate in cases of glaucoma as soon as possible, and even in the prodromal period, maintains that although originally he had been a strong advocate of iridectomy, since the development of the miotic treatment and particularly with the ability to secure good miotics, he doubts the value of operative interference in these early and prodromal periods. No matter how correctly the iridectomy may be performed, it gives rise to a certain diminution of visual acuity. After the operation the patients are more disposed to atrophy of the optic nerve, not to mention the complications of hemorrhage, explosive and otherwise, which may occur during the operation. Fully admitting the great utility of iridectomy, he does not think that it is applicable to all the cases from the very start, but that first there should be medicinal treatment, and if this is faithfully carried out the necessity for operation will grow less frequent.

It is interesting to note that this distinguished ophthalmologist, who died in September, 1906, shortly after the publication of the above, had been a sufferer from attacks of glaucoma from the age of 36 years, which were always readily combated by eserin, normal vision being retained by the miotics until his death, which occurred 31 years after the first attack.

In addition to these foreign statistics and expressions of opinion, a number of our own countrymen have given voice to their views regarding the various forms of treatment of chronic glaucoma. Lack of space prevents detailing what these views are, but those who are interested are referred to papers by Bull and Weeks before the American Ophthalmological Society in 1902, and to the discussion of their papers by Gruening, Theobald, Pooley, Chandler, Standish and Ring; to the discussion of my paper[4] by Weeks, Bull, de Schweinitz, Wilder and Callan; to a paper by Risley[4] on "The Surgical Treatment of Chronic Glaucoma," and finally to a paper by Cheney,[5] of Boston, and to the discussion which it evoked by Hansell, Zentmayer, Ziegler, Veasey, de Schweinitz, Risley and myself.

From a careful consideration of the views, both of these latter and of foreign observers, it is apparent that while a better technic has improved the results which are attained by iridectomy in skilful hands, and while there are some who still maintain the greater value of this procedure over any other means of therapy, the miotic form of treatment is gaining in adherents, and that those even who prefer iridectomy, insist on the adminstration of miotics after the operation has been performed, acknowledging their belief in the power of such drugs to control the glaucomatous process. While I do not believe that the series of cases which I have collected offers absolute proof of the superiority of the miotic over the operative form of treatment, its comparison with the percentages obtained by iridectomy makes it appear at least likely that such is the case. The types of the disease are so varied, however, and there are so many factors which are misleading in the compilation of statistics of cases of chronic glaucoma, that it is very desirable that very many other cases and groups of cases both of those treated by iridectomy as well as by miotics, should be followed and carefully studied over long periods of years. I venture to suggest, therefore, that the Section may undertake a compilation of further statistics under its own auspices, the members following their cases of chronic glaucoma as carefully and as long as possible, making frequent and accurate notes of the course of the disease, so that their reports may be available for statistical purposes.

Just as the advocates of iridectomy find beginning cases to be more amenable to treatment than those in more advanced stages of the disease, so cases treated by miotics from the early stages give better percentages in so far as the maintenance of central and peripheral vision is concerned. Thus, of the 19 cases recorded as "beginning," vision deteriorated in but 4 and even then only after a considerable period, a slow deterioration in both central and peripheral vision being noted in one case over a period of 8 years, and in another over a period of 4 years. Absolute glaucoma supervened in but two cases which were under observation from their very incipiency, miotics being powerless to prevent one eye going blind in 6 years and another in 2 years. In view of such favorable statistics from the use of miotics alone, and with the possibility of error in the diagnosis complicating the situation and iridectomy being performed upon merely atrophic nerves, is operation ever justified when both central and peripheral vision are normal, without trial of what miotics can do?

As argument against the propriety of early iridectomy, two cases may be cited, in one of which though the nerves presented all the signs of a commencing glaucomatous excavation, and the sclera were distinctly rigid, typical glaucoma cups never developed, though the case was observed for eleven years. Eserin was continuously employed, though in weak doses, as I never have felt justified in relinquishing its use. Had an iridectomy been performed on what were still normal eyes, though possessing decided glaucomatous tendencies, it is possible that the eyes might have been lost, or sight at least impaired by the procedure, whereas vision is still normal. Vision is still safeguarded in both eyes by a miotic, the continuance of this treatment demanding nothing more of the patient than a few moments' attention to dropping night and morning.

The second case was under observation for fifteen years, and during the past nine years of this period typical glaucomatous cups, with all the other signs of advancing glaucoma, slowly manifested themselves. Miotic treatment was prescribed, but was not persisted in, so that the patient was practically without treatment. Notwithstanding this, however, central vision is still normal in one eye, and almost so in the other, while the fields of vision are not greatly restricted. The patient is now 79 years of age, and has had the uninterrupted use of his eyes during the entire period of the development of the glaucoma. An iridectomy might have robbed him of his sight or might, at least, have occasioned hemorrhage or other complications which would have seriously interfered with vision.

In the 28 "moderately advanced" cases, 9 eyes showed slow loss of vision, while blindness supervened in 6. The best results of all, however, were attained in the "far-advanced" or desperate cases, for of the 7 so designated, all maintained vision in a very remarkable man-

3. Ophth. Year Book, 1907, p.198.
4. THE JOURNAL A. M. A., 1907, xlix, 291.
5. Ophthalmology, April, 1907.

ner, and in several instances over a long period of years, the most remarkable example of this being Case 48, the details of which were reported fully[6] in June, 1906.

As even the most enthusiastic advocates of iridectomy realize the danger of operating on cases in this stage of the disease, all can at least agree that in the treatment of this type of cases miotics should be employed energetically and continuously, the pupils being kept at pinpoint contraction.

A number of the cases were seen from their very incipiency, the glaucomatous cupping of the head of the nerve being preceded in each instance by a low-grade neuritis, similar to that noted by Zentmayer and myself[7] thirteen years ago. Miotics were employed early in all these cases, but notwithstanding their energetic use, the glaucomatous process slowly became more manifested in each case, the excavations extending and deepening, the chambers becoming shallower and the sclera more rigid. While the disease in each instance gave decided evidence of progression, vision, however, and the visual field remained normal, showing that the glaucoma, while not entirely checked by the miotics, was in any event greatly retarded in its progress. Miotics can not, therefore, be regarded in any sense as curative, and must be relied on solely as measures which may hold chronic glaucoma in abeyance.

In conclusion, I desire to emphasize what I have already said elsewhere: First, that miotics should be relied on as the sole means of treatment only in those cases which are free from attacks of so-called "glaucomatous congestion," the presence of such congestive symptoms being in my opinion the chief indication for iridectomy; and second, that to gain the full benefit of miotics it is necessary that they should be administered properly. Beginning in doses small enough to avoid creating spasm of the ciliary muscle, and rapidly increasing the dose until the pupil of the affected eye is strongly contracted, this degree of contraction should be maintained as long as life lasts by gradually increasing the strength of the solution, from time to time, and by instillations of the drug at intervals of every three or four hours. Conjunctival irritation may be avoided by employing only fresh and sterile solutions of the drug. Suitable cleansing washes should be administered, and attention given to the general health and especially to the condition of the blood vessels. Careful and repeated correction of the refraction error should be made and restrictions enjoined on the use of the eyes.

NOTE: As stated in the footnote at the beginning of the article, the reports of sixty-two cases are omitted from THE JOURNAL.

ABSTRACT OF DISCUSSION.

MR. E. TREACHER COLLINS, London, Eng.: The fact that the earlier the miotic treatment is commenced the better the results as to arrest of the glaucoma is perhaps what one might have expected, but I do not know that it has ever been brought out in this way. The earlier the operation, also, the better the arrest of the glaucoma. The reason iridectomy fails is that the root of the iris becomes so adherent to the back of the cornea that instead of drawing away at the extreme periphery it draws away from it where it ceases to be adherent and the root of the iris still blocks. The same applies to the miotics in the late stage; they fail to break down the adhesions and so to give relief.

When I passed from the pathologic laboratory to clinical work I did so with the determination of doing iridectomies as early as possible, but clinical experience has led me to modify that position. I do not think that we can lay down any hard and fast rule and say that miotics should always be used. The matter requires considerable judgment, I think. Cases in which I reserve iridectomy are those of patients who I think will not remain under observation and those in which miotics have been tried and in which, in spite of the miotics, slight increase of tension from time to time manifests itself as seen in slight halos or continued contraction of the field of vision. If we try the miotic treatment we need to have our patient come very regularly and need to have one who will absolutely carry out the directions we give him. One of the most successful cases I ever had in which the miotic treatment was employed was that of a clerk who used the miotic treatment and for six years kept the condition in check perfectly. In employing the miotic treatment, besides the application to the eye, we should give some general directions to the patient.

If you study the clinical history of glaucoma patients you find that the exacerbations often depend on some definite cause. One of these is emotional excitement, or the effort to suppress the emotions. I have a patient who, if he goes to a play that affects him much, has an attack of rainbow-color vision, so that I have forbidden him anything but light opera bouffe. I have also found that the exacerbations follow chill. Then very often we find a slight obscuration of vision coming on in the latter part of the day and disappearing in the morning: the night's sleep suffices to produce lowering of the tension. I recommend these patients to take as much sleep as they can get. Anything that is likely to congest the head, such as stooping or straining at the stool, is to be avoided; in fact, any hurry and worry. From what I have seen of New York and Chicago I should say that those places are the worst possible for glaucoma patients.

DR. CHARLES S. BULL, New York: The justness of our conclusions as to the value of any method of treatment is always limited by the number of cases at our disposal for comparison, and we still need a larger number of cases on which to base our conclusions. Dr. Posey has justly said that only private cases can be depended on for statistical purposes. Another of our limitations is that simple chronic glaucoma is not a common condition. I do not think it wise or scientific to regard simple chronic glaucoma as a disease. It is rather a syndrome or complex of symptoms, and we must be sure of our diagnosis and clearly differentiate chronic glaucoma from atrophy of the optic nerve with excavation. As an advocate of iridectomy, I recognize the wisdom of Dr. Posey in dividing the cases into three classes for operative purposes. I reject absolutely the moderately advanced cases and the very advanced or desperate ones. I never advise operation except in the earliest stage. The patients must be examined carefully and frequently and at short intervals of time. It is necessary to examine the field minutely and to interrupt this examination at times in order to avoid inducing fatigue of the retina. The tension must be tested at different times in the day, especially late in the day or in the early evening. The moment that we are able to determine a persistent slight narrowing of the field on the nasal side, the slightest permanent increase of tension in the morning hours, and an excavation of the disc on the temporal side, which shows an overhanging tendency, then I advise immediate operative interference. I still believe that, with the strictest observation of the above rules, the operation will give the better permanent results, but we must have a much greater number of cases, all examined with the greatest care and persistence, by skilled observers, before we can draw permanently valuable conclusions.

DR. CLARENCE PORTER JONES, Newport News, Va.: I had a patient, a colored man, aged 52, who had had glaucoma symptoms of three years' standing, pain, plus tension, and some cupping of the discs. Vision, however, was 20/30 in each eye. The diagnosis of chronic double glaucoma was made by a Philadelphia oculist who referred the patient to me for treatment. The oculist wrote, advising iridectomy on each eye. The good vision aroused my suspicion and I, therefore, examined the patient for reflex disturbances. He was found

6. THE JOURNAL A. M. A., 1907, xlviii, 676.
7. Wills Eye Hosp. Rep., 1895, I, No. 1.

to have a tense urethral stricture at the internal meatus. He gave a history of difficult urination for five or six years past. This was dilated and treated by one of my friends in genitourinary practice and resulted in a marvelous cure. This occurred nearly two years ago and the man now is absolutely free from any glaucomatous symptoms.

DR. N. M. SEMPLE, St. Louis: I have a case under observation which speaks for the great value of iridectomy. It is simply an additional case; first seen in October, 1902, giving a history of gradual contraction of the fields of vision for the preceding nine months, during which time both eyes had been under treatment by miotics. There was no history of an inflammatory attack of any kind. Examination showed central vision right eye 20/15; left 20/24; complete loss of nasal half of both fields down to the maculae temporal halves fairly well retained; good anterior chamber and regular pupils. There was no positive demonstrable increase of tension but decided cupping of both discs. An iridectomy was done on the left eye, which was the worse. Since then the patient has been under observation at varying intervals. Pilocarpin has been constantly used in the unoperated eye. The iridectomized eye has received no treatment. Following the iridectomy, the left eye showed slight increase in the field of vision, central vision 20/30. This condition has persisted five years. The right eye has been under constant and faithful use of pilocarpin, but has shown a gradual, but persistent diminution in the field of vision, and also lowering of central vision, until at present the patient is entirely dependent on the iridectomized eye.

DR. JOHN GREEN, St. Louis: In support of Dr. Posey's views permit me to record three cases of glaucoma simplex. All occurred in private practice, one in my own and two in that of my father. The first was a case of a woman, aged 62, under observation eleven years. The right eye was blind from staphyloma; in the other, vision failed in the course of the eleven years from 15/20 to 15/30. There was moderate contraction of the field, narrowing only 5 to 10 degrees while under observation; good reading vision at death. The second was the case of a woman, aged 55, under observation seven years. The right eye vision failed from 15/24 to 15/48; the left 15/60, decreased to perception of light. The fields greatly contracted at first examination. While under observation the right field contracted to within 10 degrees of the fixation point, the left field to the fixation point. The third patient was a woman, aged 30, under observation five years. The right eye vision was 15/24, increased to 15/15; the left eye was blind from glaucoma when first seen; the right field was slightly contracted. While under observation the appearance of peripheral sector defects was noted.

The eserin alkaloid in castor oil, in my hands, has been very efficient and does not evoke any irritation of the conjunctiva. I generally begin with a strength as low as 1/10 of 1 per cent. and this can be increased as indicated. It is advisable to vary the salt of eserin from time to time, and I have been inclined to a little tablet prepared in England of eserin salicylate, gr. 1/500, and tropa cocain, gr. 1/100. I also order pilocarpin in aqueous solution, instilled several times a day, in strength varying from 0.5 to 2 per cent. Dr. Posey has mentioned the preglaucomatous stage. That is the stage of optic nerve-head congestion, or, as he terms it, a low-grade optic neuritis. It has seemed to me that we fail in our duty to such patients if we do not, especially in incipient cases, have a searching examination of the patient's general condition made to ascertain if there be not some constitutional dyscrasia back of the glaucomatous condition. I have, in one case at least, thought that I found a connection between an intestinal autointoxication and the nerve-head congestion of the early stages of glaucoma simplex.

DR. J. M. RAY, Louisville: I think that the age of these patients has a good deal to do with the method of treatment. I believe that in chronic glaucoma in people over 60 we are much more likely to get beneficial effects from the miotic treatment than in people under 60. In cases in which the increased tension is constant, an iridectomy is indicated; in intermittent cases or those in which we can get the proper effect from eserin we need not operate. This has been impressed on me in the last year by the case of a woman of 45, with chronic glaucoma of one eye and no tension at the time I saw her. Later she consulted a colleague who did an iridectomy. It was not an ideal one; the incision was far in the cornea and there was an incarceration of the iris. All went along nicely for about a year, when she developed symptoms in the other eye, and in that eye she had decided increase of tension. I did what I thought an ideal iridectomy, taking out a large section of the iris back to its base. Notwithstanding the second eye went on to deterioration while the first eye still maintains useful vision. So I think that the amount of increase of tension has much to do with the prognosis either with or without an operation.

DR. W. C. POSEY, Philadelphia: One thing which I think may be learned from these figures is that chronic glaucoma is not the desperate disease it was formerly considered. For instance, in 110 glaucomatous eyes it was found that vision either improved or held its own during the entire time the case was under observation, while in 88 eyes there had been slow deterioration in both central and peripheral vision in but 13 eyes. Again, in the moderately and very advanced cases which have been regarded as especially desperate and incurable and in which iridectomy is generally regarded as being unwise, even in the 28 cases of that class but 9 showed slight loss of vision, while blindness intervened in but 6. Indeed, the best results were attained in the very advanced cases. Of 7, all maintained vision in a remarkable manner and in several instances over a long period of years.

Miotics should be relied on only in those cases free from attacks of so-called glaucomatous congestion. The presence of such symptoms is an indication for operation. In the application of the miotic I think it should be the aim to keep the pupil at pin-point contraction. For this purpose it should be used, let us say, at least four times a day, in the morning, at noon, at 6 o'clock p. m. and at bedtime. It is my custom to use nitrate of pilocarpin during the day and salicylate of eserin at night. If eserin is used during the day it creates some disturbance of vision by a contraction which it exerts on the ciliary muscle, pilocarpin having less effect on accommodation. Weak doses of the miotic should always be employed, thereby avoiding spasm of the ciliary muscle. Thus it is well to begin with ½ or 1 grain solutions of eserin at night and twice that strength of pilocarpin during the day. If the drug be dispensed properly, if the droppers be kept clean and the conjunctival sac flushed frequently with boracic solution, mycotic infection will be avoided and the miotic can be used for years.

FIBROMYOMATA OF THE UTERUS AND ANEMIA.*

BENJAMIN R. SCHENCK, M.D.
DETROIT.

The indications for radical operation in fibroids of the uterus have been widely extended during the past eight years, principally as the result of the careful statistical work of Webster,[1] Noble,[2] Eastman[3] and others. While numerous gynecologists agree with these writers in holding that practically all fibroids should be removed as soon as discovered, many still follow the older, the classical teaching, that there must be one or more of five indications present before operation is decided on, the alternative being careful and frequent observation. These indications, as stated with minor

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

1. Am. Med., March 11, 1905
2. THE JOURNAL A. M. A., xlvii, 1881, 1998, 2065.
3. THE JOURNAL A. M. A., Oct. 21, 1905, xlv.

variations by Pfannenstiel,[4] Clark,[5] Kelly[6] and Webster,[1] are (1) hemorrhage, (2) pain, (3) rapid growth, (4) complications in organs other than the uterus, and (5) mental anxiety.

Of these indications, hemorrhage is the most frequent. However, there are few exact statistics as to the frequency of this symptom, for the reason that there is no exact definition of what constitutes hemorrhage. Winter[7] states that it occurred in about two-thirds of his 1,000 cases. Hunner[8] found bleeding as a symptom in 56 per cent. of 100 consecutive cases. Pace,[9] at Florence, noted 55 per cent. in 118 instances of interstitial growths and 50 per cent. of 52 tumors of the subserous variety. Noble[2] says that his own experience would not indicate so large a percentage as that given by Winter. It is evident from these figures, as well as from general experience, that hemorrhage leading to some degree of anemia is present in from 50 to 60 per cent. of all uterine myomata.

The more important question, namely, the proportion of cases in which there is an anemia sufficiently grave to influence the advisability of operative intervention, is not so easily answered. With the exception of a recent paper by Aulhorn,[10] there are no reports of cases in series in which blood counts are systematically recorded. We have, therefore, little reliable data as to the frequency of marked anemia or the results of operations which have been done in the presence of low blood counts. By marked anemia is to be understood an anemia in which the hemoglobin is 30 per cent. or below. Every operator has had experience with such cases; few have recorded their experiences. In Hunner's 100 consecutive cases there were nine in which the hemoglobin was below 46 per cent.; it was 33 per cent. in three cases; 22 per cent. in one case. Aulhorn found hemoglobin below 50 in 8 per cent. of 87 cases, and that the operative prognosis is bad if it is below 30 per cent., especially if the leucocyte count is also low.

Individual cases of hysterectomy with low hemoglobins have been published;[11] among them two cases with 25 per cent., reported by F. H. Martin[12] and one case by Noble[2] in which the percentage was 15. Of Hutchins' series of 19 cases[11] with hemoglobin below 50 per cent. there were five in which it was below 30 per cent. DaCosta[13] also mentions a panhysterectomy successfully performed on a patient whose hemoglobin was 21 per cent. Cases such as these are surely much more frequent than one would gather from a perusal of the literature.

With the idea of bringing out the experience of others in this important group, the following cases are reported:

CASE 1.—*History.*—R. G., colored, aged 37, admitted to hospital, April 26, 1902. She was the mother of two children, aged 21 and 9 years respectively; had had "numerous" miscarriages at about ten weeks. For ten months she had had an almost constant bloody discharge, had been gradually becoming weak, had lost weight and had suffered from shortness of breath and palpitation of the heart.

Clinical Findings.—Examination revealed a functional heart murmur, a uterus enlarged to the size of a grape fruit, with wide open cervix, and hemoglobin 14 per cent. Three weeks in bed in the open air, together with the administration of iron, brought the hemoglobin to 23 per cent. and the red blood cells to 2,000,000.

On May 19, 1902, I did a supravaginal hysterectomy, which fortunately proved very easy. The tumor was submucous and the size of a large orange. The convalescence was rapid and uncomplicated. On June 20 the hemoglobin was 45 per cent. and in September it was 80 per cent. At this time the heart murmur had disappeared.

CASE 2.—*History.*—Mrs. D., aged 34, entered the hospital, May 27, 1902, in a pitiable condition. She gave a history of three years of illness marked by constant metrorrhagia, abdominal pain and difficulty in urination, with now and then attacks of chills and fever. Shortness of breath and extreme weakness were the prominent symptoms on admission.

Clinical Findings.—Examination showed a very poorly nourished woman of waxy appearance. There was marked pulsation of the vessels of the neck and edema of the feet and ankles. The apex beat was 10 cm. from the middle sternal line, and the first sound was replaced by a loud blowing murmur. The lungs were negative. The abdomen was dome shaped, somewhat asymmetrical, with marked bulging in the left flank. Palpation showed an irregular, hard tumor, somewhat more prominent on the left side. The hemoglobin was 23 per cent., and the urine contained a small amount of albumin, but no casts.

There was a daily fever, and on June 4 patient had a shaking chill, followed by a rise in temperature to 104. The pulse was 120 and very weak. She was very ill for several days, but on June 10 there was some improvement. On June 27 the following note was made: "Patient has been more comfortable during the past week than formerly. She still has much dyspnea and considerable abdominal pain. The abdomen has changed in appearance since admission. The distention has increased, and it is now more asymmetrical. On palpation, two bosses can be felt in the epigastrium, separated by a distinct notch. No fluctuation can be made out. The flanks are resonant. Except for the irregularities, the appearance and the consistency of the abdominal enlargement is like that of an eight months' pregnancy. The cervix has ascended and can now be touched by the examining finger with difficulty. There is bulging in the right fornix and obliteration of the left."

On July 1 the blood examination showed red blood cells, 2,272,000; leucocytes, 15,000; hemoglobin, 26 per cent.

Operation.—As there had been little or no gain in the past ten days, an exploratory operation was deemed justifiable. This was done on July 2. Every precaution was taken to save time and reduce shock. A median incision through thin walls revealed extensive adhesions between the anterior abdominal wall and the tumor, which proved to be a symmetrical fibroid the size of an adult head. The upper abdomen was the seat of extensive adhesions. On the right side a mass was found, buried in omental adhesions. This seemed separate from the uterus, midway between the appendix and gall bladder regions. On separating these adhesions, pus appeared, and after about one liter had been evacuated, this mass in the right side disappeared. None of the cardinal vessels could be found. The fibroid was grasped on both sides by heavy messeaux forceps and rapidly bisected until the uterine cavity appeared. The top of the fundus was cut across and the walls rapidly whipped together with strong catgut. Rapid through and through closure, with liberal gauze drains.

The patient barely escaped and was afterward very ill, with high fever, rapid pulse, edema and albuminuria. At the end of two weeks, however, she was much improved and finally made an excellent recovery.

CASE 3.—*History.*—Mrs. H., aged 54, the mother of three children, was seen first Aug. 30, 1905. She had been suffering with profuse menstruation for three years, had been curetted in May, 1905, with little benefit, and during the summer had had several severe hemorrhages.

Clinical Findings.—There were no other symptoms, except shortness of breath and palpitation of the heart. She was very pale, there was a mitral murmur, which was thought

4. Deutsch. med. Wchnschr., XXX, No. 14.
5. Progrès. méd., June, 1905.
6. Operative Gynecology.
7. Ztschr. f. Geburtsch. u. Gynäk., Iv, Olshausen Festschrift.
8. Am. Med., July 11, 1903.
9. Zentralbl. f. Gynäk., No. 29, p. 1376.
10. Zentralbl. f. Gynäk., XXXI, 1666, Winckel Festschrift.
11. Hutchins: Johns Hopkins Hosp. Bull., November, 1904.
12. New York Med. Jour., June 17, 1905.
13. Clinical Hematology.

to be functional, and the uterus was found to be studded with small fibroids. The cervix was long and its canal patulous. The blood count showed 2,140,000 red blood cells and a hemoglobin percentage of thirty.

Operation.—As she was very fleshy, a vaginal hysterectomy was done. The uterus was enlarged about four times, and its walls were filled with small fibroids, six of which were submucous.

Except for a rapid pulse during the first ten days, the convalescence was satisfactory, and she has been in excellent health until last heard from, April, 1908.

CASE 4.—*History.*—Mrs. N., 47 years of age, the mother of two children, aged 18 and 21 years, had never had any miscarriages. Five years before, profuse menstruation began. This gradually became worse, until for the past year she was unable to tell when the periods were present, so continuous was the bloody discharge. For two weeks, however, there had been none. There never had been any pain and, for the past few weeks only, difficult micturition.

Clinical Findings.—When Mrs. N. was first seen she appeared desperately ill. She had been in bed for two months, suffering from extreme weakness, shortness of breath, palpitation of the heart and ringing in the ears. She was extremely pale, the pulse was 118 and of very low tension, and there was a loud, blowing systolic murmur heard over the chest and well into the axilla. The area of cardiac dulness was much increased. Vaginal examination showed the pelvis choked by a smooth, soft, slightly movable fibroid of regular outline. The cervix was short and the canal patulous. The blood count showed 1,227,000 red blood cells, 20 per cent. of hemoglobin and 9,000 leucocytes. The urine was normal.

Treatment.—The patient was put on iron and strychnin. Her distressing symptoms were somewhat relieved by the end of the second week, when the flowing began again. The hemoglobin remained at 20 per cent.

There seemed to be two courses to pursue—either to pack the uterus and continue the attempt to build up the patient, or to do a hysterectomy. On passing a sound the uterine cavity was found to be 20 cm. in length and tortuous. It was evident that it could not be effectually packed, that it would require weeks to bring about a rise in the blood count, and that during this time there would be great danger of infection. Immediate operation was decided on and supravaginal hysterectomy was done Oct. 21, 1907. Every care was taken to hasten the operation, preserve the body temperature, preserve every possible drop of blood and prevent shock.

Subsequent History.—The convalescence was uneventful, and the gain in weight, strength and appearance was very gratifying. On March 6, 1908, the hemoglobin was 65 per cent. The heart murmur was still present, but was greatly lessened, as was the area of cardiac dulness. The patient remained in a comparatively excellent condition until May 3, when she began to have a slight rise in temperature. Her attending physician was at a loss to account for this, and as there were a number of cases of typhoid fever in the vicinity he believed that she had contracted the infection. Chills and sharp rises in temperature later ensued, and the patient died on May 25, apparently from acute endocarditis.

In all the cases of this group there are three important practical considerations, (1) the effect of the anemia, (2) the treatment and (3) the prognosis.

The principal effect of the anemia is on the cardiovascular system. Any attempt to set forth this effect involves us at once in a consideration of the association of myomata of the uterus and lesions of the heart, a subject on which much has been written in the last five years and an adequate presentation of which would lead us far afield; indeed, even so far as to a discussion of the etiology of myomata. A few points should, however, be discussed.

Cardiovascular changes are frequent in patients suffering from uterine tumors. They are responsible for many postoperative deaths. Baldy[14] had 3.55 per cent. mortality from cardiovascular causes in his fibroid cases and but 0.2 per cent. in all other operations. Among 80 autopsies on patients with fibroids, Schlaegel[15] found some pathologic condition of the heart in 48.7 per cent.; Webster[1] reports 25 per cent. of such changes in 210 clinical cases; Fleck[16] found 40.0 per cent. among 325 cases studied; Boldt,[17] in whose excellent paper there is a review of the whole question, found some circulatory changes in 47 per cent. of 79 cases. Other similar statistics might be quoted. Proper distinctions between myocardial and endocardial changes have not been made.

A careful study of some 25 papers on this subject leads me to the following points: There are four theories to account for the frequency of cardiovascular changes in patients with myomata. These are:

(a) Alterations in the vascular system are primary, and the cause of the fibroids.

(b) The presence of the tumor leads to increased aortic tension and other circulatory disturbances which affect the heart.

(c) Myoma is not a local affection, but a general disease with a triad of symptoms consisting of tumor, nervous manifestations and general vascular disturbance (Paulli[18]).

(d) A toxin circulates in the blood which causes both the uterine tumor and the heart degenerations.

None of these theories is satisfactory. It is my belief that uterine myomata are congenital and can not, therefore, be secondary; that only the larger tumors disturb the circulation sufficiently to cause an increased aortic tension, and that there is nothing in the nature of an undegenerated fibroid to lead one to believe that it is either caused by a toxin or that a toxin is elaborated.

A consideration of the cases on which these theories are based shows that a large majority of them are either cases in which degenerations have taken place or in which there has been hemorrhage. Hemorrhage, of course, is not the sole cause of anemia, but in the vast majority of cases it is the underlying factor, and I believe that in the greater proportion of the cases anemia is the cause of the cardiovascular changes.

If anemia is the cause of these frequent and well-recognized vascular changes, the practical deduction is that all fibroids showing the slightest tendency toward an increase in the menstrual flow should be promptly removed. The presence of these heart changes is an indication for operation rather than a counterindication. Many patients, however, are not seen until the anemia is grave. What, then, should be our attitude toward them?

It has long been held, probably less tenaciously at the present time, that it is highly dangerous to operate under general anesthesia when the hemoglobin is less than 30 per cent. Some authorities regard 40 per cent. as the low limit of safety. This belief is based largely on an excellent study on the effects of anesthesia on the blood made by Bierfreund.[19] Kalteyer[20] says: "While there are some instances on record in which a general

14. Am. Jour. Obst., October, 1905.
15. Zentralbl. f. Gynäk., xxx, 562.
16. Arch. f. Gynäk., lxxi, No. 1.
17. New York Med. Jour., Oct. 28, 1905.
18. Hospitalstid., xlii, No. 25.
19. Langenbeck Arch., xii, 1.
20. Philadelphia Med. Jour., Dec. 2, 1902.

anesthetic has been given with favorable results to a patient with a low hemoglobin, the exceptions do not prove the rule, and, therefore, the conclusion seems justifiable that a general anesthetic must not be given, except under the stress of absolute necessity, if the hemoglobin is low.

On the contrary, Noble,[21] Deaver,[22] Winter,[7] Shoemaker[23] and others would put no arbitrary limit on a hemoglobin percentage below which it is unjustifiable to operate. This position, I believe, is the correct one, yet it is not to be denied that a hemoglobin percentage of less than thirty is a grave complication and that, under such circumstances, special attention to numerous details, both before and during the operation, must be given. Otherwise operation is not justifiable.

When there is active bleeding, no radical measure should be attempted until every effort to stop the hemorrhage and build the patient up has been exhausted. Curettement and packing the uterus will sometimes, although not often, be effective. Of medicines, hydrastis is better than either ergot or cotarnine preparations. Rest in bed, good food, fresh air and iron are, of course, to be employed.

In spite of the most careful treatment, some patients will not respond. If the bleeding continues active, the blood count very low and the heart's action bad, I believe the ligation of the uterine arteries, as advocated by F. H. Martin,[12] is advisable as a preliminary to hysterectomy. This, I think, should have been done in Case 4. Myomectomy should never be done. When hysterectomy is undertaken, every measure possible must be taken to shorten the time of the operation, minimize the hemorrhage, maintain body heat, and sustain the blood pressure. Carelessness regarding these measures is common, never excusable, under these circumstances criminal.

The reported cases of hysterectomy with hemoglobin under 30 per cent. are too few to justify conclusions as to results. Every gynecologist has had successful cases. Many patients have died, but for the most part the literature contains accounts of the successful cases only.

When there is grave anemia there is great danger of thrombosis and embolism during the convalescence. Phlebitis and thrombosis occurred 19 times in a series of 727 cases of fibroids which the author[24] reported from Kelly's clinic. Anemia was present in nearly all of these 19 cases and is undoubtedly a factor in this serious postoperative complication.

In conclusion, it may be said that anemia is frequently associated with fibroids; it is often grave and constitutes a menace to life. Every one has recognized its dangers, but in the literature it has not received the attention its importance demands. More cases should be published in detail and thus more light shed on this phase of the myoma problem.

ABSTRACT OF DISCUSSION.

DR. DANIEL H. CRAIG, Boston: I wish to report a case which came under my care a few months ago. The patient was referred to me by Dr. Courtney, a neurologist, of Boston. The case was one of paralysis agitans with general anemia, apparently spinal, in a single woman, aged 36. There was hemoglobin percentage of 26 and a fraction. The patient was actively bleeding, and every ordinary means had been employed to check the flow before she was referred to me. Hysterectomy was advised, and at operation a fibroid was found occupying the entire thickness of the uterine wall, impinging on the mucous membrane on one side, and on the other there was a very dangerous deposit of calcareous matter. A distinct submucous polypi was found, filling practically the entire uterine cavity, and very small fibroid nodules. A supravaginal hysterectomy was done. Aside from giving the patient liquids for forty-eight hours before the operation, no unusual precautions were taken, although at the time of operation everything necessary was at hand for transfusion of salt solution should it be necessary. The patient stood the operation well and there was not a single complication; and now, six or seven months afterward, the woman so far as her pelvic condition goes is in perfect health. This was a very marked case of fibromyoma with anemia in which the anemia was an extremely important factor and yet operation was justifiable.

DR. H. T. BYFORD, Chicago: I have had the opportunity of watching some of these patients for a long time after operation, and from my experience I am satisfied that Dr. Schenck is right when he says that fibroid tumors do not of themselves cause vascular changes. Nor do I think that they give rise to any other unfavorable changes in the system until they are large enough to cause some pressure or other interference, unless it be through the anemia. I have had patients who stood the operation well, but who never recovered from the anemia. I remember two patients whom I watched for about ten years without finding the hemoglobin above 60. They had been chlorotic for a long time. I do not know that they ever have or will recover from it. Such cases offer an argument in favor of not letting the patients go too long without operation.

21. Am. Jour. Obst., September, 1901.
22. Am. Med., April 15, 1903.
23. THE JOURNAL A. M. A., xlviii, 1282.
24. New York Med. Jour., Sept. 6, 1902.

SOME OF THE MORE UNUSUAL FORMS OF EPITHELIAL GROWTHS OF THE SKIN.*

J. A. FORDYCE, M.D.
Professor of Dermatology and Syphilology, University and Bellevue Hospital Medical College.
NEW YORK CITY.

Experience with a large number of epithelial new growths of the skin, studied both clinically and microscopically, has led to some observations which have seemed worthy of being placed on record. Most of these have been confirmatory of the work of others, while a few of them may claim a limited originality. The two large divisions of cutaneous epithelial tumors into basal cell and prickle cell epitheliomas are justified by their histologic structure and clinical course. In the one the basal cells of the epidermis and the outer root sheath of the hair are chiefly or solely active, this class including among others, the well-known rodent ulcer which is so familiar to dermatologists.

Some modern writers on cancer, as Sutton,[1] attribute to rodent ulcer a sebaceous gland origin. It is true that many rodent ulcers in their early stages produce a lobulated growth simulating in a general way the outlines of the sebaceous glands, and it is not disputed that they may originate from the epithelial layer of the gland as they do from the hair follicle or germinal layer of the epidermis, but it is only in this way that a sebaceous gland origin can be invoked. They are not genetically related to the secretory glands, as are cancers of the breast or of other glandular organs. Rodent ulcers, as well as other basal cell growths, only rarely involve the lymph nodes and produce metastases, and no adequate explanation has as yet been offered as to why they spare the nodes.

* Read in the Section on Cutaneous Medicine and Surgery of the American Medical Association, at the Fifty-ninth Annual Session, held in Chicago, June, 1908.

1. Tumors Innocent and Malignant, Fourth Ed., 1907.

The spino-cellular type of tumor, on the other hand, originates in the layers above the basal cells and reproduces its own kind, usually resulting in the cycle by which more or less perfect squamous cells are formed. This type of growth, as a rule, is more malignant in that it soon implicates the lymph nodes and leads to metastases. It is the form met with at the muco-cutaneous juncture, the mucous surfaces as well as in the skin. In the latter, tumor formation preceding the ulceration is often the predominant feature, whereas, in the basal-celled epithelioma there is a greater tendency to local ulceration and serpiginous extension with less tumor formation.

Various subdivisions have been made of these two main types, resulting in a lengthy and confused nomenclature. In tumors of the prickle cell variety there is not so much divergence from the type of growth; in some, the cells in their evolution do not proceed to the formation of pearls, but maintain the spinous or polygonal cell throughout. In others, the exaggeration of the normal evolution of the cell is so marked that the growth is almost entirely made up of these centers of cornification. Between these two extremes, of course, there is every intermediate grade. An example of histologic activity is illustrated in Figure 1. The tumor followed an injury to the leg received nine months previously and developed with such rapidity that it terminated fatally in a very short time. In this case a secondary growth was found just beneath the primary one, and it is probable that the secretion containing epithelial cells had been implanted on an abrasion below and thus given rise to the new growth. This is analogous to the infection of the edges of the wound and lines of suture which are sometimes seen after operation for cancer of the breast or other organs.

In the basal-celled variety of tumors the clinical picture is quite as diverse as the histologic one. For instance, I have seen multiple epitheliomata following psoriasis assume the form of fungating growths, which, microscopically, belonged to the rodent ulcer type. Several years ago I reported the case of a small circumscribed pea-sized growth which had developed in the scar tissue of lupus. At that time it was considered an endothelioma, but further study of the sections has led to the conviction that it was a basal cell tumor with cystic degeneration. A tricho-epithelioma, which will be described in detail later, presented the clinical appearance of a morphea without a suggestion, macroscopically, of a tumor formation. The so-called benign cystic epitheliomata, either solitary or multiple, appear under varying guise as the expression of one and the same affection. Certain of them may be of the pure basal cell type with colloid degeneration of the cell masses, while others may be mixed growths with centers of cornification. Both of these forms have been examined histologically by the writer.

The so-called cylindromas probably belong to the basal cell group, although an endothelial origin has been attributed to them by Billroth, Borst, Klebs and others. In addition to the multiple tumors of the scalp described by E. Spiegler,[2] single tumors of the face and mucous surfaces have been seen. I have removed a number of such growths from the face which, clinically, were brownish-red in color, soft in consistency, and of a relatively benign course with little tendency to recurrence after extirpation. Microscopically, they were situated in the corium, had apparently no connection with the epithelial covering or pilo-sebaceous apparatus, and were made up of cells with small well-staining nuclei and little cytoplasm, corresponding closely with the cylindrical cells of the basal layer. About the cell aggregations and inside of them a hyalin degeneration had taken place in the form of cylinders, which circumstance gave the tumor its name (Fig. 2). Darier[3] suggested that such growths originated from embryonic rests, possibly glandular, and that their hereditary character speaks for this view.

Epithelial tumors which develop in connection with another morbid process, as a rule, are of the prickle cell variety, though occasionally the basal-cell type is encountered. They afford excellent opportunities for the study of epithelial growths of the skin. Such studies when extended to the precancerous conditions such as senile keratosis, moles, warts, xeroderma pigmentosum, leucoplakia, *x*-ray dermatitis, Paget's disease, etc., greatly enhance our knowledge of this large subject and emphasize the futility of incriminating one etiologic factor in tumor formation. Dermatologic experience certainly does not support the infective theory of tumors.

Among a large number of secondary growths which I have seen is the so-called Marjolin's ulcer, the name given by Marjolin over more than half a century ago to chronic ulcers which had become malignant. A few years ago DaCosta[4] revived this name for the condition described, but it will probably be more popular in surgical than in dermatologic nomenclature, as the term is too ambiguous and is not suggestive of the real nature of the affection.

In these chronic ulcerations, the young epithelial cells which lie in the granulation tissue become active when the local conditions are favorable and lead to tumor formation. I have seen bilateral ulcerations from suppurating buboes of the groin simultaneously become carcinomatous; also ulcers of the leg and an extensive ulcer of the forearm from a burn. One case, remarkable for its very chronic course, was that of an ulcer of the thigh from a burn received forty years before. It had broken down and healed several times during this interval and then developed into a squamous-celled cancer (Fig. 3) of slow course, the benignity being explained by the histologic structure which showed the sharp limitation of the epithelial growth by the sclerotic connective tissue beneath (Fig. 4).

The tumors which I have seen secondary to syphilitic ulcerations have been of the squamous-celled variety, but as they were all met with about the lip and tongue, it was natural that they should be, as basal-celled epitheliomas of the mucous membranes are not so commonly met with. They do occur, however, and mention has already been made of the cylindromas of the buccal cavity which have come under my observation. I have also seen a tumor in the roof of the mouth over the hard palate and gums, which consisted of a reddish-brown infiltration and had been mistaken for lupus. A biopsy showed a growth of basal cells with a tubular arrangement.

An examination of leucokeratosis of the mouth reveals a condition analogous to that met with in many other precancerous keratoses, viz., a proliferated epidermis, which, when assuming malignancy, shows hy-

2. Endotheliome der Haut: Archiv f. Derm. u. Syph., 1899, l, 165.

3. La Pratique Dermatologique, iv, 687.

4. Ann. Surg., 1903, xxxvii, 496.

perchromatic nuclei and mitotic figures. A lymphocytic and plasma cell infiltration is present in the upper corium, which reaction is essentially the same wherever growing epithelium is beginning to show malignancy.

It seems reasonable to assume that nevi do not always originate from the same embryonic structure, for it is possible that the mesoblast as well as the epiblast may give rise to these developmental anomalies. In my experience there is more evidence in favor of an epidermal than an endothelial origin. I have found, however, that the type of cell varies somewhat, even in nevi of the same class. In some of the pigmented warty moles I have seen perpendicular columns of cells which were closely related to the basal cells of the epidermis. They were elongated or cylindrical with deep-staining nuclei and relatively little cytoplasm (Fig. 5). Again, in nevi which were similar, clinically, to the preceding, the cells had the arrangement of a mosaic and were of a transitional type, being large and globular or polygonal, with vesicular nuclei, clear cytoplasmic bodies and distinct borders (Fig. 6). In none of them was it possible to demonstrate prickles. Sometimes these varieties occur mixed and next to a column of small deeply-staining cells one will find a nest of the larger pale kind.

I agree with the contention of Unna, Gilchrist and others that the majority of pigmented tumors arising from nevi are of epithelial origin, though it is not possible in every case to exclude a mesodermic origin of certain of them. This is opposed to the views of Johnston and other supporters of the endothelial genesis of moles that melanomas from nevi are sarcomas.

CARCINOMATOUS LYMPHANGITIS SECONDARY TO CANCER OF THE BREASTS.

Malignant disease of the breast seldom comes to the dermatologist unless it is complicated with a cancerous lymphangitis or unless the latter is the predominating feature of the disease, as in the case about to be related. In this case nodular lesions appeared in the skin over the mammary region simultaneous with or shortly after the occurrence of the retraction of the nipple. From the history which the patient gave, it seemed likely that carcinoma of the breast followed on a mastitis subsequent to childbirth.

History.—Mrs. C. C., aged 28, had had six children, two of whom were dead. Her mother was living and well; her father died of "jaundice" at the age of 49. She had one sister living. For nine years she had had trouble with her right breast, following an abscess after the birth of her first child, and she said none of her children would nurse from it. She was first seen in July, 1907, when she stated that the condition then present had begun a year previously. At that time she noticed "spots" on the skin of her chest and afterwards nodules in her right breast. Six months later the left breast became involved.

Examination.—At the time of examination she was in the fifth month of gestation. Both breasts were hard and the nipples slightly retracted. Over the front and back of the chest on the right side were scattered numerous lenticular lesions (Fig. 7), a few of which were encrusted. A lymphangitis also was present, which manifested itself by a reddish-brown discoloration of the skin, extending along the line of the lymphatics from the nipple over the shoulder, the back and down the right arm (Fig. 8).

Later History.—She was not seen again for two months, during which time the disease had made extraordinary progress. The right upper half of the chest was red and the seat of numerous encrusted lesions; the lower half showed a linear lymphangitis and lenticular nodules. The surface temperature was not elevated as in ordinary septic lymphangitis. Both nipples were retracted, the glands were board-like and her right arm was edematous and red. She was markedly cachectic and had great difficulty in breathing, partly on account of the infiltration and partly on account of the extreme weakness from which she was suffering. She gave birth to a healthy child on November 12 and died on December 26 from exhaustion. In the meantime the tumors of the breasts had increased in extent, many of the nodules in the skin of the chest had undergone ulceration, and the edematous condition of the arm had increased. The lymphangitis which had been present only on one side involved the left side also, but was more accentuated on the right side.

Examination of Specimen.—Specimen removed from the skin over the site of lymphangitis (Fig. 9) showed the lymphatic channels of the corium filled with large epithelial cells containing hyperchromatic nuclei and numerous mitotic figures. The central portion of many of these cellular collections had undergone a fatty degeneration and resulted in cyst-like cavities containing epithelial detritus. The collagenous tissue immediately about the lymph vessels was reinforced by a new growth of fibrous bands with numerous spindle cells. Beyond an acanthosis and edema, the epidermis participated only passively, the growth from the subepidermic lymph spaces extending into the epiderm and forming cysts at its expense. As can be seen from the illustration, the cancer cells have entirely displaced those of the rete and so compressed them that they form the walls of more or less rounded or irregular spaces containing tumor cells, degenerated protoplasm and chromatic particles. It was over these areas that ulceration took place and it was the contents of these small cysts which could be extruded on pressure.

In his chapter on Paget's disease Ribbert[5] states that the edematous and vacuolated cells present in that condition are not the primary epidermal cells which have suffered this change, but foreign elements which have emigrated from the tumor growth beneath. This view is not substantiated by a study of the illustrations showing the invasion of the epidermis by cancer cells in the case of lymphangitis (Fig. 9) and the epidermic changes in Paget's disease of the buttock (Fig. 10) given herewith. In the former the invading tumor cells formed cysts entirely distinct from the normal cells of the part, and there was no migration of individual cells. In the latter, where early changes are pictured, it is very evident that the cells belong to the epidermis.

Histologic examination of the lenticular nodules showed the lymphatic spaces of the entire corium infiltrated with rows of epithelial cells running parallel with the epidermis. Many had undergone a fatty degeneration and stained poorly. In the connective tissue surrounding the growth a mucinous degeneration had taken place.

PAGET'S DISEASE OF THE BUTTOCK.

During the past few years a number of cases of extramammary Paget's disease have come under my observation. One of them, a lesion on the buttock, was made the subject of a report.[6] It was cured with *x*-rays, no recurrence having taken place after three years. The case about to be cited is interesting on account of having the same localization and many features in common with the other.

History.—J. F., aged 68, born in Ireland, had for many years been a gardener by occupation. He had a seborrheic dermatitis and patches of senile keratosis over the face and backs of the hands, together with telangiectases and pigmentations—a condition like that met with in sailor's skin. The affection for which I was consulted had slowly progressed over a period of thirty years, was located on the right buttock and consisted of an irregularly rounded, non-ulcerating area

5. Beitr. z. Entstehung der Geschwülste, 1906.
6. Jour. Cutaneous Diseases, 1905, xxiii, 193.

4 by 5 inches in diameter, dark red in color, with a marked polycyclic margin and a slightly nodular center. The diagnosis of Paget's disease with secondary epithelioma was confirmed by microscope. The condition slowly resolved under *x*-ray.

Examination of Specimen.—The tissue from the margin of the lesion (Fig. 10) showed acanthosis with swollen edematous epithelial cells, vacuoles and mitotic figures. Some had lost their prickles, had a dark contour, but still retained their relation to neighboring cells; others were separated and free in spaces. There was a dense sub-epidermic infiltration of

Fig. 1.—A cancer of the leg following an injury. The tumor had a very malignant clinical course, its activity being evident histologically by the formation of numerous "pearls."

Fig. 2.—Cylindroma of the scalp. The cells of this tumor are small and closely resemble those of the basal layer of the epidermis. Inside the cellular aggregations hyalin degeneration has taken place in the form of small cylindrical areas, from which the growth derives its name. Immediately surrounding the cell masses the connective tissue has likewise undergone a degeneration, appearing as a narrow homogenous band of hyalin.

plasma cells and lymphocytes. Sections from the center of the lesion consisted of an intact slightly verrucose epidermis with striking changes in some of the rete cells. They were likewise edematous, contained hyperchromatic nuclei and many atypical mitoses. A number were detached from their neighbors. The tumor itself (Fig. 11) extended through the corium by branching processes; its upper portion was made up of cells conforming more to a transitional type, being ovoid or more or less rounded with large, pale vesicular nuclei. The protoplasm was degenerated and here and there vacuolated, suggesting oftentimes prickles. At different points of the growth the degeneration involved a number of cells and gave rise to cysts filled with fragmented nuclei and protoplasmic detritus. In the more recent and advancing parts of the tumor the cells were smaller and the nuclei richer in chromatin. The sclerotic collagenous tissue contained an inflammatory infiltration, most marked beneath the epidermis and about the upper half of the growth.

In my experience, extramammary cases of Paget's disease do not differ essentially from those of the nipple, unless it is in degree. In both instances the process is the same, namely, edema, vacuolation, loss of prickles,

Fig. 3.—Marjolin's Ulcer. Burn of hip and side of trunk when 3 or 4 years old. It healed and broke down several times. Now has ulcer 3×4 in. on hip; surface knobby; here and there islands and streaks of new epidermis. Biopsy showed typical squamous-celled cancer, sharply limited by dense mass of sclerotic tissue beneath.

separation of the cells and erosion, but in the mammary region it apparently attacks the epidermis with greater severity. Tissue from the edge of ordinary ulcers has shown that the cells are sometimes swollen and vacuolated or ballooned. This change, which is due to the simple imbibition of fluid, does not, however, follow the pathologic cycle of Paget's disease.

MULTIPLE EPITHELIOMATA OF THE ARMS AND CHEST.

The clinical picture of epithelioma of the skin includes a number of types which are not generally recog-

nized as belonging to this group, but are sometimes mistaken for infective granulomata or other diseases of the skin. They are best illustrated by examples which have fallen under my observation in which the diagnosis has been confirmed by the microscope. Sometimes there is little new growth, but a slowly spreading dark red patch, slightly scaling on the surface, with irregularly rounded outline, which probably developed on areas of chronic seborrheic dermatitis which later assumed an appearance of senile keratosis, or they are accompanied by patches of verruca senilis. These lesions are usually seen too late to follow the sequence of their development. In some of them the edges do not show

Fig. 4.—Cancer of the skin following an old ulceration due to a burn. The photograph shows the downgrowth of the tumor sharply limited by the underlying dense connective tissue.

Fig. 5.—Nevus papillaris. Showing the styloid processes from the epidermis merging with the nevus cells. The latter are arranged in perpendicular columns, separated by collagenous tissue, and are made up of a small type of cell more in conformity with the basal cells, having deep-staining nuclei and little protoplasm. The growth is pigmented.

Fig. 6.—Nevus papillaris. Showing elongated and anastomosing rete pegs enclosing nevus cells which are probably of a transitional type. They are globular or polygonal, closely opposed to one another, with vesicular nuclei, clear cytoplasm and well-marked borders. Pigment is present.

Fig. 7.—Lenticular carcinoma. Hard tumor of right breast with retracted nipple. Left breast also hard; nipple slightly retracted. Multiple lenticular nodules in skin covering both. Some eroded and discharging a serous fluid. Large erythematous patches over the right shoulder, upper part of right arm and right side of back (See Fig. 8), a distinct unilateral distribution. This erythema in places shows a slight infiltration—a carcinomatous lymphangitis in the early stages.

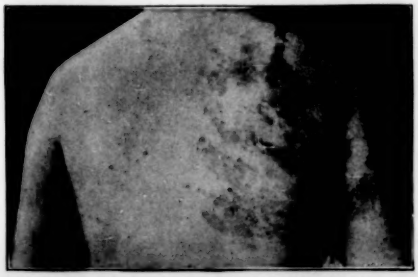

Fig. 8.—Lenticular carcinoma. Back view of patient shown in Fig. 7.

the elevated, rolled pearly margin, but they have a depressed center with little tendency to ulceration. When situated on the face a narrow rim of ulceration is sometimes present about the margin. Seen in the typical sites of rodent ulcer these patches are not difficult to diagnose, but when met with on the extremities and trunk they are strikingly like the late syphilitic neoplasms. An instance of multiple lesions of this character lately came under my care where a number of good observers had made the diagnosis of syphilis on account of the history of such an old infection.

History.—Mr. J., aged 72. Patient had had lues over forty years ago, for which he had active treatment, and for which he had consulted numerous practitioners since that time. When I saw him he had multiple lesions over the chest and arms, dark red in color, with scalloped margins, showing a very slight tendency to elevated or pearly rolled edge. They had persisted for a period of ten years and had progressed slowly peripherally without central involution, as seen in syphilitic infiltrations.

Examination of Specimen.—Histologically, the lesion was a superficial epithelioma (Fig. 12) situated under an intact, flattened epidermis, with which it was connected here and there by a delicate pedicle or in relation with a hair follicle. The cells were of the cylindrical type, being typical and uniform at the periphery of the cell masses, but showing a polymorphism in the center on account of pressure. Here many of them were elongated and spindle-shaped, like connective tissue cells.

Fig. 9.—Cancerous lymphangitis secondary to cancer of the breast. Showing the cancer cells in the lymphatics of the skin and the mode of extension of the disease.

Fig. 11.—Tumor in Paget's disease of the buttock. Growth consisting of a transitional type of epithelium with vesicular nuclei and well marked cell bodies devoid of prickles. A mucinous degeneration of the tumor present. The supporting connective tissue is sclerotic.

Fig. 10.—Paget's disease of the buttock, showing the changes which take place in the epidermic cells in this disease. They are very much swollen from edema, vacuolated and have their nuclei pushed to one side. Many of the cells have lost their prickles. In the corium there is a dense infiltration of lymphocytes and plasma cells.

Fig. 12.—Rodent ulcer. Lesion from chest showing proliferation from basal layer of epidermis budding of the cell masses and cystic degeneration.

Fig. 13.—Tricho-epithelioma. Fine strands of epithelial cells ramifying through the derma. To the right of the center of illustration is seen a follicle in process of budding. The intervening connective tissue shows a partial band-like sclerosis and a mucoid degeneration.

Fig. 14.—Tricho-epithelioma, showing proliferation of basal layer of hair follicle and extension of growth through the cutis.

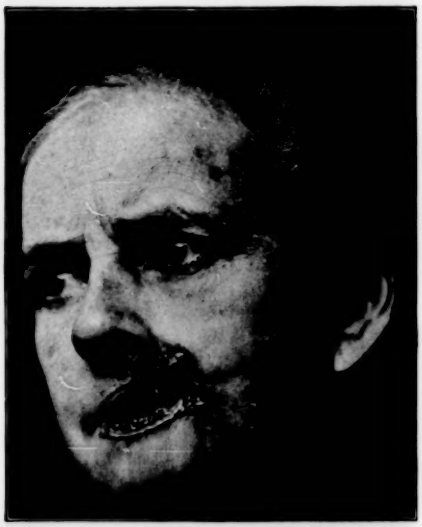

Fig. 15.—Rodent ulcer. Growth began near left ala of nose and gradually extended until it involved half of the upper lip and almost all of the lower lip. Loss of tissue was so extensive that canine and bicuspid teeth were exposed. Tumor of rodent ulcer type was confirmed by microscope.

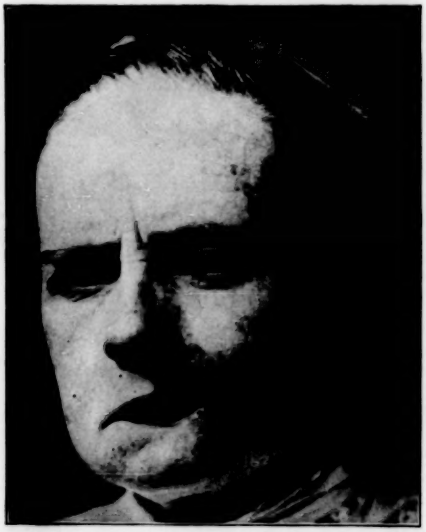

Fig. 16.—Rodent ulcer. After treatment with *x*-ray. Same patient as shown in Fig. 15.

A cystic degeneration had taken place at various points, the spaces containing emigrated leucocytes, protoplasmic detritus and some blood pigment. In areas in which this degeneration was beginning the cells were markedly swollen, the nuclei had lost their chromatin and appeared like shadows. In the corium lymphocytes and polynuclear leucocytes were present.

TRICHO-EPITHELIOMA.

In the following case the diagnosis was only made after a microscopic examination. There was nothing in the clinical appearance of the lesion to suggest an epithelioma.

History.—Z. L., female, aged 80, had on her upper lip near the left ala of the nose a small mole, which had broken down some months previously, and under the microscope proved to be a rodent ulcer with marked degeneration. Situated near this lesion on the lip was a small, circular, sharply limited sclerous area about ⅜ in. in diameter, which the patient said had existed for only about two years. It bore the clinical features of a morphea, but histologically proved to be a basal-celled epithelioma having its origin in the lanugo hair follicles.

Examination of Specimen.—Histologically the tissue presented an intact epithelial covering with the new growth occupying the entire cutis. It was made up of fine strands of epithelium, which on longitudinal section showed two or more layers branching in various directions and occasionally swelling out into cyst formation; on transverse section there was an alveolar arrangement of three or more cells. The cells themselves were small, with deep-staining nuclei and a narrow rim of protoplasm. The follicular origin was demonstrable in their connection with the lateral buds given off by lanugo hairs (Fig. 13) in the derma and the offshoots from the superior part of the follicle (Fig. 14). A number of horny cysts were present with two or more peripheral layers of cells and central lamellated corneous material. The collagenous tissue immediately surrounding some of the alveoli had undergone a hyalin change or was condensed like a basement membrane. Between the epithelial processes were long sclerous bands and between these a mucoid degeneration of the collagen. The sweat and sebaceous apparatus showed no appreciable abnormality. A moderate round cell infiltration was present throughout.

This growth was interesting for several reasons, in that there was no suggestion of a neoplasm, on account of its close proximity to another basal cell tumor of different conformation and because of the development so late in life of this particular kind of growth. It belongs to the class designated by a varied nomenclature, but the name tricho-epithelioma, given by Jarisch, Hartzell and others, is perhaps most fitting, as it is simple and indicates a certain structure in contradistinction to others having their origin in the basal cells of the epidermis or follicles.

COINCIDENCE OF PRICKLE CELL EPITHELIOMA AND RODENT ULCER.

It is unusual to meet with instances of prickle cell epitheliomas and rodent ulcers in the same individual, as multiple epitheliomas usually preserve the same type throughout. I have, however, had a case in which there was a typical rodent ulcer of the temple and a prickle cell growth over the bridge of the nose. Similar epitheliomas in the latter locality have been met with in several instances in my experience. In the early stages it was impossible to differentiate them clinically from the ordinary rodent ulcer. In one case, although the growth was healed under *x*-ray, it was soon followed by metastasis of the lymph node at the angle of the jaw, which recurred several times after operation and finally led to a fatal result.

History.—Mr. G. M., aged 43, had a small, pearly, nodular lesion of twenty years' duration, situated in the temporal region. It began to grow two or three years before I saw him, and slowly spread with central depression and elevated pearly margin. It was typical of an early rodent ulcer. The lesion on the nose had been present a year and a half and clinically was somewhat similar to the one on the temple. In addition he had another small, pearly growth beneath the right eye of seven months' duration. The lesions were curetted, followed by the galvano-cautery, a cure resulting.

Examination of Specimen.—Microscopically the lesion on the temple was a rodent ulcer of usual type. The one on the nose was of the pure spino-cellular variety, consisting of alveoli of prickle cells showing no tendency to pearl formation. It may have had its origin in the follicular cells as the alveoli seemed to be connected with a proliferating follicle.

EPITHELIOMA OF THE LIP IN A WOMAN.

Epithelioma of the lip, although of frequent occurrence in the male, is seldom met with in woman. The following case is, therefore, of interest:

History.—M. S., aged 48, said that the tumor began sixteen years previously from a small lesion near the ala of the nose. It spread very slowly until it involved by direct extension the vermilion border of the lips. The ulceration at the left angle of the mouth and adjoining upper lip was so extensive as to expose the bicuspid and canine teeth (Fig. 15). The growth yielded to *x*-ray (Fig. 16). Under the microscope it was seen to be made up of basal cells with a delicate tubular arrangement, conforming with the rodent ulcer type of growth.

In regard to *x*-ray treatment of epitheliomas of the skin, a longer experience with it has led to much greater conservatism in recommending it. I have found that better results have been obtained from the use of Roentgen rays after the new growth has been thoroughly curetted. In this way it is possible to apply the rays directly to the more actively developing cells. It has also been my experience that the prolonged use of the ray in malignant cutaneous growths is as a rule contra-indicated, especially its persistent use after repeated relapses, for it is believed that in certain cases it renders the tissue more vulnerable to the malignant process. I have in mind a number of cases of epithelioma and several of Paget's disease in extramammary locations in which no relapses have occurred after from two to four years. On the other hand, I have seen a number of instances in which *x*-ray had been employed to treat recurrences, each one of which involved greater areas of skin, both as to depth and circumference. In using the Roentgen treatment in such cases, one should not forget that excellent results may be obtained in many of these forms of minor epithelioma by the use of the curette followed by a chemical or the actual cautery. *X*-ray or radium should be reserved for epitheliomas of the inner canthus, the eye-lids or locations not accessible to other methods of treatment.

ABSTRACT OF DISCUSSION.

DR. JOSEPH ZEISLER, Chicago: Dermatologists have become convinced of the non-contagious nature of carcinoma, and I believe that a discussion along those lines between dermatologists, general surgeons and pathologists would be fruitful. We see cases of xeroderma pigmentosum, with the development of carcinoma under the influence of only one physical factor, namely, the influence of light; we see the development of carcinoma under the influence of the *x*-ray; we see it in the senile skin, simply due to dryness of the skin similar to that produced under the influence of the *x*-ray; we see it develop from nevi; so that we have sufficient proof from our own clinical observations to become convinced of the non-parasitic nature of carcinoma. I believe that this would be a wholesome lesson for the dermatologist to teach the general surgeon.

DR. M. L. HEIDINGSFELD, Cincinnati: The distinction which Dr. Fordyce made between the prickle and the cylindrical cell type appealed to me very strongly. In my own work I have realized, both in a pathologic and clinical way, the difference between the so-called cylindrical and the prickle-celled epithelioma, and my observation has led me to a different idea as to the development of these tumors. The so-called basal-cell epitheliomata, I believe, are derived from the ducts of the sudoriferous glands, and are more of an endothelial character. In malignancy all neighboring structures such as the hair follicles, sweat glands, etc., are much stimulated to overgrowth and development by the abnormal conditions, and it is difficult to infer what elements of tissue are chiefly involved in the pathologic process. I believe the origin of these growths to be in the lower structures, the ducts of the sudoriferous glands, rather than the basal cells. In regard to the possibility of the mesoblast being involved in some of these processes, I will cite a case I saw a year or two ago. The lesion was a rapidly growing mole on the chin of a young man. I excised this and found that there were sixty or seventy small osteomata of laminated bone type, containing bone cells, corpuscles, Haversian canals and canaliculi, situated in the cutis and entirely isolated from all the underlying tissues. This case clearly indicates that mesoblastic tissue in the epiblast must owe its origin to misplaced embryonic development, and I heartily concur with Dr. Fordyce as to this probable form of origin of many new growths.

TRAUMATIC RUPTURE OF THE UTERUS AND BLADDER DURING LABOR AT FULL TERM. HYSTERECTOMY, REPAIR OF BLADDER AND RECOVERY.*

JOHN YOUNG BROWN, M.D.
Chief Surgeon to St. John's Hospital.
AND
PERCY H. SWAHLEN, M.D.
Resident Obstetrician, St. Ann's Maternity Hospital.
ST. LOUIS.

The object of this paper is not to review the literature of rupture of the uterus, but to report an interesting case.

Patient.—A Russian by birth and of Jewish extraction, at the age of 16, left her native home and came to America. She had ten brothers and sisters, nine of whom were dead; the causes of death were unknown. The father and mother are living and well. The patient knows of no particular disease in family and stated that her mother and sisters experienced no particular difficulty in giving birth. She had no drug or tobacco habit. Menstruation was regular and without pain.

History.—The patient had only done housework since her marriage to her first husband, at the age of 22. One year after her marriage she gave birth to a 6 months' child, which died within a few hours. She was divorced from her first husband after two and a half years and remarried at the age of 26. One year later she was delivered of a full-term, seven-pound child, which is still living and well. She was in labor about thirty hours, but no obstetric interference was deemed necessary.

Present Pregnancy.—The woman had reached her twenty-ninth year. Pains began normally at what she had estimated was the end of the ninth solar month of pregnancy. She was attended by a midwife for the first thirty hours and then two physicians were called in and endeavored to extract the child with forceps. When they failed in their efforts, a specialist was summoned who, with the patient anesthetized, found the vagina wide, the cervix almost completely dilated, the fetal head apparently transverse above the pelvis in beginning engagement, but caput succedaneum made an exact diagnosis impossible. The lower uterine segment was very thin and reached the umbilicus. The physician then made a futile attempt at delivery with forceps and advised sending the patient to a hospital. The family refusing, version was decided on. No pelvic measurements were made and the fetal heart sounds were not to be heard. The back of the child was to the mother's right. A hand was inserted into the uterus with great difficulty and the lower uterine segment was found to be very tense but by pressing on the fundus with the other hand the left leg was finally brought into the vagina. At this stage another physician endeavored to complete the version and neglected holding the fundus. Suddenly he announced that the head had slipped upward. Abdominal palpation revealed the well-contracted uterus to the right and the easily defined fetal head to the left. The hemorrhage from the vagina was very small in amount. Owing to the obstinacy of the family, the patient could not be brought on the operating table till almost an hour and a half had elapsed. On admission to the St. Louis City Hospital, the patient was in profound shock. The pulse was 130, respirations 28 and temperature subnormal. Immediate preparations for operation were made.

Operation.—Ether anesthesia was given, the abdomen opened through a median incision. On entering the peritoneal cavity, a large quantity of blood and amniotic fluid escaped. The back of a well-developed, full-term child presented in the incision. The child was quickly delivered through the abdominal wound. The rent in the lower uterine segment extended two-thirds around the cervix and well up into the body of the uterus, being T-shaped in character. Both uterine arteries were bleeding. The bladder was ruptured. The broad ligaments were quickly clamped, and the uterus caught and amputated above the cervix. The rent in the bladder was repaired with two layers of silk suture. The uterine stump was covered with peritoneum. The abdominal cavity was flushed with hot saline solution and closed with through-and-through sutures of silkworm gut. Anesthesia was begun at 12:28 a. m. The patient was returned to bed at 1:05 a. m.

Postoperative History.—Convalescence was uneventful, the patient being discharged from the hospital March 3, 1907, twenty-eight days from the date she was received.

As rupture of the uterus is divided etiologically into two classes, spontaneous rupture and rupture by violence, it is of interest to consider here if there were any predisposing causes in this case. Contracted pelves among us are not so common as in Europe. It is an accepted fact, according to Bandl, Baisch and other investigators, that an abnormally small pelvis is the chief cause of spontaneous rupture of the uterus—not a rachitic pelvis, in the majority of cases, but a generally contracted flat pelvis—and pelvimetry, as performed during the convalescent period of our patient, proved that she came under that class, the measurement being:

Interspinal	24.5 cm.
Intercristal	26.5 cm.
Intertrochanteric	28.0 cm.
External conjugate	17.0 cm.

The writers tell us that an edema of the cervix, due to the pressure between the head of the fetus and the pelvis of the mother, is an accompanying factor in this condition, as a result of which the resistance of the tissues is lessened. In this case the edema was practically absent.

We notice, moreover, that the woman was a multipara, and that she had been in labor thirty hours (the time of rupture of the membranes not obtained) before a physician was called. As the woman, at the age of 27 years, had been in labor twice as long as the average primipara, and as it is a fact, according to Döderlein, that the children increase in size up to the fifth, a birth along normal lines was hardly probable.

* Read in the Section on Obstetrics and Diseases of Women of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

Systemic disease and operations were denied, so, if any scar tissue had formed, it must have resulted from the first birth; and the dilated cervix and wide vagina speak against any pronounced amount.

The fact that there were no new growths and that the child was of average size, cause us to sum up our findings as a strong plea for pelvimetry in every case.

Regarding the treatment, it appears that when the specialist had failed to extract the child with forceps, only craniotomy and pubiotomy should have come into consideration, for Döderlein now teaches never to try version after a skilled operator has failed with the forceps. Pubiotomy was contraindicated by reason of the long birth, the surroundings of the patient, the numerous forceps applications and the fact that the negative auscultation of the fetal heart sounds and the large caput succedaneum pointed to a dead fetus.

PERSONAL OBSERVATION IN SCARLET FEVER.*

CHARLES GILMORE KERLEY, M.D.
NEW YORK.

It was my good fortune early in my professional life, when resident physician at a New York institution for children, to see a great many cases of scarlet fever, so that what I shall have to say will be the result of personal observation in institutional and private work in over five hundred cases.

INFECTION AND CONTAGION.

Scarlet fever is both contagious and infectious. By contagion I am to be understood as meaning the possibility of direct transmission of the disease from one ill with scarlet fever to the unprotected. By infection I mean that it is possible for the disease to be transmitted through a second person or through the medium of an object, such as a book or article of clothing.

Transmission by other than that of personal contact, according to my opinion, is unusual. It has been impressed on me repeatedly that the contagium of scarlet fever is not particularly active early in the disease. I have repeatedly known the unprotected to be exposed for several hours and not contract the disease. In other words, there is less likelihood that the unprotected may contract scarlet fever under exposure than that they may contract measles or pertussis under similar circumstances. Not a few times I have known a child to develop scarlet fever during the night. He would be found in the morning with a well-marked rash and the unprotected children occupying cribs on either side would not develop the disease.

That the contagium may infect clothing or other objects, has been proved. A case in point occurred in a Hudson River village. A little girl, native of the village, contracted scarlet fever in Brooklyn, having returned before signs of illness appeared. The disease was very severe and the child died. All the clothing that had been worn was destroyed, with the exception of a new coat, which the mother thought too good to burn. This was secretly wrapped in paper and put in the drawer of an unused bureau. After twelve months the mother gave the coat to a little girl in the village. The child came down with scarlet fever in a week or ten days after wearing the coat. There had been no other cases of scarlet fever in the village, other than these two, up to this time. The second little girl had never been out of the village. There was no apparent possible connection between the two cases other than that of the cloak.

INCUBATION, AGE OF SUSCEPTIBILITY AND DEGREE OF SEVERITY.

The usual period of incubation is from five to nine days. I have seen it develop three days after exposure in two instances and in one case on the twelfth day. Few, however, go by the seventh day. If an exposed child passes the ninth day without signs of the disease, we can assure the family that the chances for the child contracting the disease are small.

The susceptible age is between the first and tenth year. Cases occurring in children under six months of age are rare. This was forcibly brought to my attention in one of the institution epidemics. In this instance scarlet fever broke out in a second-floor ward of one of the cottages. In this ward were four nursing women and twenty-six children. The four nursing women, who were orderlies, each had a baby under four months of age. The disease developed in a colored boy over five years old. When my attention was called to him, I learned that he had been kept in the ward for three or four days for insubordination and possible illness. On examination a well-marked scarlet fever rash was found. Inasmuch as all the children had been thoroughly exposed and as our quarantine was filled with diphtheria, it was thought best to quarantine the entire ward. This was done. Every one of the twenty-two older children, from two to six years of age, came down with scarlet fever, together with one of the nursing women, who nursed her own child through the period that she had the disease. Neither her own child nor the other three nurslings took scarlet fever. On the contrary, they throve and grew fat in the atmosphere, about ten weeks being required to complete all the cases.

Like the exanthemata, scarlet fever may be so mild that a diagnosis is impossible, or it may be so severe as to take the life of the patient in a few hours. Usually the severity or mildness obtains fairly evenly throughout a given epidemic—this year cases mild, next year cases severe. This does not invariably follow, as I have seen cases coming from the same ward during the same epidemic, but showing wide variation in severity.

INVASION AND DURATION.

The onset in the usual case is sudden, with fever and sore throat. In a small proportion of the cases there is vomiting. Fever and the angina are the most constant symptoms. The degree of temperature indicates fairly accurately the severity of the infection. With a temperature range from 104 to 106 we have a severe infection; in a range from 102 to 104 F., moderately severe; with a range below 102 F., the infection is mild.

The rash in scarlet fever is variable; it differs widely in its intensity, although in the main it corresponds in intensity and in extent of development with the fever.

The rash in scarlet fever is simulated more by other rashes than the other exanthemata. In other words, it has less exclusive characteristics. The rash in septic processes simulates scarlet fever very closely.

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

The rash of streptococcus tonsillitis is very similar to the scarlet fever rash. Various drug and indigestion rashes are mistaken by excellent diagnosticians for scarlet fever. In differentiating these difficult cases I have found the throat manifestation of no little help. Thus we have scarlet fever with little or no fever, with the rash varying widely in its development, but I have seen but few cases without a distinct angina, and no cases without angina when a characteristic rash was present. I look on this symptom, angina, as one of the most constant in scarlet fever. The strawberry tongue is of little value. I have seen it in many other illnesses.

The duration of the active symptoms in the uncomplicated cases is from three to seven days.

DESQUAMATION.

The desquamation is also subject to wide variations; usually in the most severe cases with intense rash the skin desquamates the earliest and the most freely. Nevertheless, we see cases who had marked rash with desquamation very slightly or not at all.

I have a case in point at the present time, that of a girl 11 years old, the daughter of a prominent New York surgeon, who had a typical well-marked rash, which faded at the usual time without a sign of desquamation. Three years ago a boy after exposure developed a severe scarlet fever with all the symptoms well marked. He was kept in quarantine six weeks, waiting for the desquamation. Not the slightest trace appeared.

On the other hand, there are cases in which there has been little or no rash, but in which there is free desquamation. Among the few patients referred to as having had scarlet fever without throat signs was a maid in a family where two children were ill with scarlet fever. The young woman never had a temperature above 100 F. My attention was called to her but once, and then because of a slight redness of the skin on the forearms. Her temperature was normal. Her throat was negative, and the redness on the arm was dismissed from my mind when she told me that she had been washing clothes in soap and hot water. After the house had been fumigated on account of the children, the maid's skin began to desquamate, peeling freely from her hands. She was seen by a health officer and sent to the Willard Parker Hospital.

The onset of desquamation is subject to wide variations. In some it will disappear before the rash has subsided; in others, not until two or three weeks have elapsed. I have seen two cases in which there was a second desquamation. The skin desquamated and cleared. In two weeks in one child, and in four weeks in another, a second desquamation occurred, almost as extensive as the first.

SECOND ATTACKS.

In one case I have seen a second attack of scarlet fever occur in three months in a boy of six years. The first attack was moderately severe, followed by a free desquamation. The second attack was of unusual severity, and the boy died.

MANAGEMENT OF UNCOMPLICATED CASES.

Our first thought in the management of any severe illness in a child is to place him under the most favorable influences, in order that he may best undergo the ordeal before him. We can not cure scarlet fever or shorten its course, but we can make it easier for the patient to bear. Inasmuch as the outcome in many cases is a matter of vitality, of resistance against a definite poison, it must be our object to conserve every strength unit; for when, by any means, energy is wasted, we lessen correspondingly the chances of recovery.

The first principle of management, as relates to the conservation of energy, rests in keeping the child comfortable, as comfortable as the disease will allow.

Fresh Air.—The first consideration in this regard is fresh air. A well-ventilated large room with free ventilation is most desirable. The child is kept in bed.

Clothing.—The usual night clothing and bed clothing is all that is required.

Diet.—The diet is invariably reduced. In every severe illness in a child the digestive capacity is diminished and the strength of food must be lowered to meet the changed condition. Digestive disturbances with their resulting toxemias mean that there is just so much more for the patient to bear, a waste of strength units. Milk as a rule is digested badly by very sick children. It is my custom to give it considerably reduced with cereal decoctions or not at all. In fact, the best diet for a child very ill is the one which will maintain strength and yet call for least digestive effort. I find that this office is best filled by gruels and meal soups to which enough animal broth is added to give a pleasant taste to the mixture. Orange juice, weak tea, kumyss and zwiebach are also used in selected cases. Water is given freely.

Bowel Function.—There must be one free evacuation daily. Nurses are so instructed.

Urine.—The urine is examined at each visit. This is easiest done if a small bottle of nitric acid and a few test-tubes are kept in the sickroom. It takes but a second to test for albumin.

Sponge Bath and Inunctions.—Twice a day the patient is sponged over the entire body with water, which may be made cold, cool or luke-warm, depending on the bodily temperature. After sponging, the patient is oiled with liquid petrolatum or cold cream. The sponging and the inunction give a great deal of comfort and prevent a wide scattering of the desquamated skin particles. After establishing the patient under the above general management, which applies to all cases, we are in a position to look into the details of an individual case.

Daily Inspection.—In scarlet fever, aside from guarding against the systemic effects of the specific poison, we have to keep in close touch with the kidneys, as already mentioned. Our daily inspection should include the throat, the ears, the glands and the heart. Of these the throat is by far the most important. Here we always find the streptococcus active; and from this source in all probability the heart is affected.

Drugs and Local Treatment.—Do not give heart stimulants merely because the child has scarlet fever. The indication for heart stimulation is heart weakness. Alcohol is given only in the severely septic cases. Its possible unfavorable effects on the kidneys should always be kept in mind. In selecting heart stimulants, the choice is between strychnin, strophanthus and digitalis. In all cases with pronounced angina, I give chlorate of potash internally and use peroxid of hydrogen in the form of sprays or gargles. The iron and chlorate of potash mixture, used so extensively in diphtheria, doubtless earned its popularity from the disinfectant

action of the chlorate of potash. It is to be given in small dosage, three to four grains every two hours, not more than five doses in twenty-four hours. I have yet to see harm result from its administration in a great many cases. When there is nasal involvement one grain of menthol is added to one ounce of liquid petrolatum and used as a spray; or a saturated solution of boracic acid is instilled into each nostril several times daily.

Throat Irrigation.—If the throat shows extensive involvement with edema, false membrane and sloughing, I bring throat irrigation into use. This is carried on as follows: The child is wrapped in a sheet, which is securely pinned, binding his arms to his sides. He rests on his right side without a pillow. Directly under his mouth is a pus basin to catch the outflow. A new fountain syringe, containing a hot salt solution, 120 F., is suspended about three feet above the child's body. The largest size of the hard-rubber rectal tip is fastened to the pipe and the tip placed between the child's teeth. The current, interrupted every few seconds, should be forcible enough to increase its efficacy as a cleansing agent, the volume of fluid being so small that no inspiration of the water occurs. The first irrigations will arouse more or less rebellion on the part of the patient, and but one-half pint of the solution need be used. In older children no trouble will be experienced after the relief afforded by the first treatment is appreciated. In refractory young children, from two to four years of age, the assurance that there will be no pain and a promised reward will reduce the struggling to a minimum. It is not to be expected that the child will not cough; in fact, a little coughing is desirable, as it dislodges the pus and sloughing tissue, enabling the solution to cleanse the parts more effectually.

Cold Compress.—No better preventive method against the development of adenitis exists than the cold compress on the throat. This is applied at the first sign of gland involvement and repeated at hour intervals.

Treatment of Pyrexia.—High temperature in children, regardless of the nature of the illness, is to be managed by the same methods. The most satisfactory method in my hands has been in the abstraction of heat through the means of hydrotherapy, in the use of spongings and packs. It is a popular belief among laymen that cold should not be used in scarlet fever, because of some unfavorable influence exerted on the rash. There is no disease of childhood with high temperature in which the application of water to the skin does harm. I use spongings and packs in scarlet fever, exactly as in pneumonia. When is elevation of the temperature to be interfered with? What are the indications that necessitate interference? When we have a degree of temperature that causes restlessness, loss of sleep, rapid heart with resulting loss of vitality, that is, wasted energy, then I believe that means at reduction should be instituted. This will be necessary in some patients at 103 F., in others at 105 F. In other words, we should be governed largely by the effects of the temperature on the individual and not by the reading of the thermometer. If sponging is employed I use one part alcohol with three parts of water at about 80 F. The skin is repeatedly moistened with the solution, which is allowed to evaporate. In some patients such a procedure is soothing. In others it occasions no little annoyance and must not be used. By far the most satisfactory hydrotherapeutic means is the use of the cool pack

Preparation of the Cool Pack: The pack is prepared as follows, a rubber sheet being used to protect the bed sheet: A large bath towel or some thick, soft absorbent material should be used; muslin, linen or any thin material does not answer as well. Slits are cut in the towel large enough for the arms to pass through, and the towel is folded around the body, enveloping only the trunk and buttocks. The pack should not extend below the middle of the thighs. This leaves the arms and the greater part of the lower extremities free. A hot-water bag, carefully guarded, should be placed at the feet and the patient covered with a blanket of medium weight. The towel is moistened with water at 95 F. This higher temperature is necessary at first, in order not to frighten the patient, as sudden cold is apt to do, and also to avoid shock. In two or three minutes the towel, without being removed, is again moistened with water at 90 F., later with water at 85 F., and still later at 80 F. When the temperature of the water reaches 80 F. it is better to hold it at this point for half an hour; then the patient's temperature should again be taken. If at the beginning his temperature was 105 F. and now shows but slight or no reduction, the temperature of the water with which the towel is moistened should be reduced to 70 F., or, if necessary, even to 60 F. The child throughout need not be disturbed, except to turn him from side to side to wet the towel with water of the desired temperature, this being one of the advantages of the pack over a tub bath or sponging.

Duration of Pack: For the first hour or two in a pack the temperature of the patient should be taken every half hour. When it is reduced to 102 F. the pack should be removed, for, if it is continued longer, too great a reduction may take place. If it rises again rapidly to 105 F. or higher, it is well to keep the patient in the pack continuously. The degree of cold necessary, in the individual case, to keep the temperature within safe limits will soon be learned. I recently kept in a pack for seventy-two hours a boy four years old, with a lobar pneumonia. In this case a continuous pack of 70 F. was required to keep the temperature at 104 F. or slightly lower. The towel or other material employed should not be used for more than six hours, when it should be changed for a fresh one. Another reason for frequently taking the temperature is that early in the attack we do not know how it will be affected by the continued cool applications. In some children it is very readily influenced, and in such a case collapse might follow a very sudden reduction of the temperature. In cases readily controlled, the pack may be necessary for only one-half hour or an hour, at intervals of three or four hours. An ice-bag may with advantage be kept at the head when the child is in the pack.

132 West Eighty-first Street.

Antibodies in the Milk of Syphilitic Women.—G. Guicciardi relates considerable clinical and experimental research on this subject in *Ginecologia*, June 15, 1908. He succeeded in demonstrating the presence of specific antibodies in the milk and also in the serum-colostrum during pregnancy. The positive findings were not constant, occurring only in four out of six cases. The positive reaction was obtained even in cases of very old infection in which the presence of the antibodies proved the only possible means of diagnosis. The proportion of antibodies was smaller after systematic mercurial treatment.

AN EPIDEMIC OF HEMORRHAGIC NEPHRITIS FOLLOWING SCARLET FEVER.*

C. F. WAHRER, M.D.
FORT MADISON, IOWA.

The word "epidemic" here employed is used in its most liberal sense, meaning thereby a certain rather prevalent and fairly general disease in a given district. The origin of most diseases has thus far been ascribed to well-known, partly known, or suspected vegetable or animal micro-organisms.

In spite of the admirable achievements of bacteriology and laboratory methods, there are many things not easily accounted for by our bacteriologic findings alone. For instance, one epidemic of measles is followed by such sequelæ as otitis, pneumonia, bronchitis, pleural effusions, mastoiditis, etc., while after other similar epidemics complications are much less frequent or may even be absent. It becomes a question, so far unanswered, why we have these different manifestations of the same disease.

THE EPIDEMIC.

In Lee County, Iowa, in the southeastern corner of the state, with Fort Madison as a center, we had in the early months of 1906 a very ordinary epidemic of scarlet fever, attended by few of the usual complications and sequelæ. There was a very low mortality, especially low when we consider that hemorrhagic nephritis followed the scarlet fever in many of the cases.

There were, as well as I could gather from the number reported to the health office and a few of the unreported, about 195 or 200 cases of scarlet fever from December, 1905, till May, 1906, in the town of Fort Madison, and there was also a fair sprinkling of cases in the surrounding country within a radius of from five to fifteen miles.

The whole number of deaths did not exceed six, either directly from the disease or from its sequelæ, or a fraction over 3 per cent. in all. Out of this total of 195 patients about 35, or 18 per cent., had hemorrhagic nephritis. Out of the six that died only two died from nephritis, but whether death was caused by this alone I could not definitely ascertain, as the observers reporting them reported from memory only, having no case records from which to refresh their memories and to furnish in detail all the factors entering into all the causes of mortality. All my own patients recovered except one, who died from adenitis with deep phlegmonous streptococcic infection of the cervical and parotid regions.

Sequelæ of some sort are by no means rare in scarlet fever. We nearly always have some nephritis, some cervical infections, otitis, paralyses with temporary or sometimes permanent loss of function of members affected. But to have so large a percentage of cases of hemorrhagic nephritis and so very few other sequelæ is all the more remarkable, since no cause can be assigned except mere chance, and I for one am not a very strong adherent to the doctrine of chance as an etiologic factor in disease. I have witnessed in all twelve or more scarlet fever epidemics, some in which the mortality was quite high, both from the disease itself and from the sequelæ as well, but in none was there such a preponderance of nephritis as in this one, and certainly none showed as high a percentage of the hemorrhagic form.

Before giving the pathology of this form of nephritis, I will give you the treatment employed for the scarlet fever itself, so that you may observe beforehand what relation, if any, it bears to the nephritis following, as we well know that certain drugs employed may produce a toxic nephritis in certain persons so predisposed.

TREATMENT OF THE SCARLET FEVER.

No stereotyped treatment for scarlet fever thus far is known. Patients with mild cases see no physician, and do not even go to bed. Others require more or less attention, but the treatment is usually symptomatic. Most of my patients were ordered to take a tepid sponge daily, followed by inunction of lard with some mild antiseptic, as boric or salicylic acid. This usually keeps the temperature within limits and gives comfort to the child, allaying the itching. The bowels were kept open with small doses of calomel or Rochelle salts, and when there was vomiting bismuth was added. Ventilation was insisted on and the temperature of the room kept at from 68 to 72 F. Urine was always examined early in each case, as we generally find some albumin even when we have no marked nephritis. When the quantity of urine was diminished, milk diet was enjoined with small doses of digitalis and potassium citrate. When fever was high, 104 to 105 F., or more, bathing was ordered and in persistent cases the wet-sheet pack was employed at 70 or 80 F. These simple procedures were usually sufficient to treat the average case of scarlet fever. Thus it can be seen there was nothing in the treatment prejudicial to the best interests of the patient.

PATHOLOGY OF DIFFUSE NEPHRITIS.

Now considering the pathology of diffuse nephritis, we usually find not only the parenchyma of the kidney involved but also the interstitial tissue. Hence we have a diffuse nephritis. We have here an enlarged and edematous kidney, distended vessels with accumulation of round cells in groups, especially around the afferent vessels of the glomeruli and from there around the capsules.

Various interpretations have been given for these round cells. Orth claims that they are derived from the connective tissue cells. Councilman says that they correspond to Unna's plasma cells and are found at the boundary zone of the pyramids in the cortex beneath the capsules and around the glomeruli. He found them also in the blood vessels of the boundary zone associated with lymphoid cells, but without interstitial infiltration.

The blood vessels themselves show no alterations, though some authors have described hyalin degenerations of the intima, or swelling of the muscular coat, and adventitia with deposits of cells and accumulation of fibrous masses and desquamation of the endothelia, in nephritis of scarlet fever and diphtheria.

Microscopically, a granular brownish-red, coagulated mass is found in Bowman's capsules and especially in the uriniferous tubules, the straight and convoluted; the latter especially contain hyalin casts and renal epithelium in process of cloudy swelling and various stages of disintegration.

The microscope in all my cases revealed the presence of blood corpuscles, hyalin and granular casts, renal epithelium in all stages of degeneration and, in some cases, bacteria. Chemically, albumin was found in quantities from 0.125 to 1.5 per cent. The specific

* Read in the Section on Diseases of Children of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

gravity was frequently high, owing to the very small amount of urine passed, until the treatment modified the condition. Many specimens contained so much blood as to make the urine very dark red and opaque.

The dropsy, the second prominent phenomenon, has all the characteristics of renal dropsy. It usually develops early, and unless the patient is under constant observation by the physician it is often the first symptom reported by the parents. The amount of dropsy is not always in proportion to the amount of albumin or other urinary phenomena. These may be very pronounced when there is but little dropsy, and the converse may be true.

MODE OF RECOVERY.

Now a word or two as to the mode of recovery. The inflammatory process may undergo more or less involution by absorption of the interstitial exudate, the removal of the contents of the uriniferous tubules by the urine, and partly also by absorption and regeneration of the epithelium, by forming new elements from the cells which may remain. Thus a recovery, more or less complete, may result; if incomplete, we have a loss of secreting parenchyma, and scattered areas of contraction.

To ascribe the amount of toxicity to the height of the fever, as some do, is impossible in this particular epidemic, as the temperature did not run very high during the scarlet fever itself. Moreover, we often find a toxic nephritis where there has been but a low preceding temperature. So it is to be inferred that there is still present to account for the amount of toxicity some unknown factor for which there is no name, unless this unknown factor be called a mixed infection mainly due to streptococci, as has been suggested by Herrick of Chicago.

The scarlatinal nephritis seldom makes it appearance until after the febrile stage is nearly or entirely over, presumably because the infection was prior to this exhibited in the skin. When desquamation begins this infection becomes manifest in the kidneys, because absorbed by the lymphatics and carried to the kidneys, where it may set up, not only the usual nephritis but a glomerulonephritis, in addition to the interstitial and parenchymatous condition. This diffuse form of nephritis belongs to scarlet fever during the stage of desquamation. We may find it much more rarely in malaria, diphtheria or in the secondary stage of syphilis. When seen in scarlet fever it is usually of grave character and a variegated symptom-complex.

The most important phenomena are the urinary changes and the dropsy. In nearly all the cases which I observed in this particular epidemic a genuine hematuria, hence a hemorrhagic nephritis, was present. By microscopic examination I found blood corpuscles in large quantities, thus establishing the diagnosis after excluding all local sources of hemorrhage, as from the bladder or urethra. It is well to observe also that in a few cases there was only a hemoglobinuria in which there were no blood corpuscles or only a few. This was also further attested by the well-known Heller test for blood.

It may be suggested by some in discussion that certain drugs used in the treatment of the primary disease may have been responsible for a toxic nephritis. We are aware that chlorates, sulphuric and oxalic acids, sorrel, chloroform, ether, mercury, glycerin, turpentine, carbolic acid, tar, naphthol and other antiseptics may produce a nephritis when ingested or applied locally. Further, certain foods and beverages, mustard, radishes, pepper and alcohol may, in susceptible people, also produce kidney inflammation. Exposure to cold is also an unquestionable factor in the etiology of the disease. As far as could be ascertained, none of these factors was responsible for the epidemic described.

There is also a widespread tradition among the laity, shared by many physicians, that taking cold during desquamation causes the disease to "strike in" and thus produce the mischief. While this does not sound very scientific, yet it is well to caution patients to keep comfortably warm during the scaling period and thus avoid the factor of cold. By the application of ointments or bacon rind the pores are kept relatively closed and little moisture is lost by perspiration; hence the fluid passes through the kidneys, thus flushing them.

TREATMENT OF THE KIDNEY LESION.

Now, as to the treatment of these cases I would call attention to the fact that the treatment given for the primary disease was in itself prophylactic. When the much-dreaded scarlatinal nephritis appeared the measures early begun were now most strictly carried out and supplemented as follows:

The patient was put to bed and kept comfortably covered. Milk diet was ordered; any kind of milk was allowed, sweet, skimmed, sour or buttermilk, or junket made with rennet, or whey. When this became distasteful, or amelioration set in, light broths, animal or vegetable, were permitted; crackers, toast and cocoa also were added. Carbonated mineral water and "soda-pop" were much used. All spices and condiments were absolutely forbidden. When dropsy was extreme, fluids were restricted as much as possible.

A weak infusion of digitalis with small doses of potassium citrate was given every three hours, or a substitute of an elixir of sourwood compound, containing to each dram two grains each of sourwood and Canadian elder and one-fourth grain of squill. When dropsy was a marked feature, especially with high temperature, my mainstay was the wet-sheet pack employed twice a day for two hours each time. When the patient improved the pack was used once a day. This never failed to relieve and prevent uremia, reduce the temperature and give general relief. In a few cases where the hematuria was intense and stubborn, ergot was administered three times a day, in some cases with benefit, in others with no apparent results. In many cases the dropsy, hematuria and consequent albuminuria responded in one or two weeks, but most of them persisted for five or six weeks with slight albuminuria for three months. Apparently all the patients made complete recoveries. None has since died from intercurrent affections as far as I have been able to ascertain.

I have asked most of my colleagues to give me data of their cases, but as none of them keeps case records they were unable to give me anything except cursory facts gathered from memory. This after a lapse of two years would not be very exact nor reliable. Some said they had had a number of patients, most of whom recovered, while some died from the nephritis. Other physicians had had but few patients, most of whom recovered; others, again, could not remember having had cases of hematuria. A few did not notice the urine at all, hence their experience would be of little value in this report. But I take it from a consensus of their conversation with me that their average experiences were similar to my own.

SUMMARY.

1. This was an unusually mild epidemic of scarlatina.

2. An unusual number of patients had albuminuria and nephritis as sequelæ.

3. A large percentage of these had diffuse nephritis with hematuria and hemoglobinuria.

4. Nearly all the patients recovered from what is usually considered a most serious complication.

5. None of them has since shown symptoms of relapse or imperfect recovery. The future may show exceptions.

6. We are still in the dark as to certain etiologic factors in disease phenomena.

1007 Fifth Street.

ABSTRACT OF DISCUSSION.

ON PAPERS OF DRS. KERLEY AND WAHRER.

DR. HENRY EXOS TULEY, Louisville, Ky.: One of the factors in epidemic scarlet fever which has not been brought out is the milk supply. This was illustrated recently in Chicago. A severe epidemic of scarlet fever was caused by the milk from a large dairy, it being found on investigation that one of the milkers was in the stage of desquamation following scarlet fever. I have noticed in several epidemics in a large orphan asylum in Louisville that scarlet fever is much less contagious than the other exanthemata. I have noticed too that isolated cases of scarlet fever are often much more severe than those seen in epidemics. One such case I can recall in which there was marked hyperpyrexia, a severe double otitis media, a marked membranous angina, involving the larynx, and requiring intubation and finally tracheotomy, nephritis and pulmonary edema from which the child died. Because of the frequency with which streptococci are found in the throat I believe that we get good results from the use of the antistreptococcic serum, especially in the presence of hyperpyrexia.

DR. R. B. GILBERT, Louisville: It is a well-known fact that the germs of scarlet fever are carried by the exfoliations and that they retain their vitality for many months. As to Dr. Wahrer's remark relative to bacon-rind, I think that a better thing would be fresh hog's lard. Another thing that interested me was the statement as to the recurrence of scarlet fever. I took the stand in a paper on this subject that measles, scarlet fever, smallpox, etc.—any one of these diseases—will occur but once in an individual, ordinarily, yet every one may a second time occur, and I recall one patient, a girl, who had measles a third time. I believe that it is due to the fact of a difference in the route of entrance of an infection. If, for instance, it enters through the bronchial mucosa, these glands will forbid any further entrance through that route, but the lymphatics of any other route may not forbid an attack. I recall a case in which a child, sick with measles, was visited by a cousin who had had the disease, and later the second child developed the condition. I do not believe that any drug has any control over scarlet fever. I want to draw the line against a cold draught in scarlet fever, for it is a well-known fact that a draught of air in such cases increases the danger of nephritis. I believe that daily high irrigation of the colon with normal saline solution is most efficacious.

DR. H. M. MCCLANAHAN, Omaha, Neb.: I agree that the contagiousness of the disease is not active during the first twenty-four hours. I doubt the wisdom of letting go broadcast the statement that at the end of the third week it is entirely safe to permit a child with scarlet fever to associate with other children. I recall a case of scarlet fever that was taken from a piece of flannel that had been kept ten months. In scarlet fever, when the temperature falls and the heart remains fairly rapid, is it not an indication of endocarditis? As to its occurrence in infants, von Pirquet of Vienna, of 1,056 cases, saw but one patient as young as 4 months, and but three under 1 year. I recently had an experience in a poor family in which a child under 9 months was repeatedly exposed yet failed to contract the disease. Dr. Kerley says that in probably 10 per cent. of the cases the Kleba-Loeffler bacillus was found. I would like to know in what number of those cases did they discover a laryngeal complication following. This would be pretty good proof whether the Kleba-Loeffler bacillus is the cause of the disease or not. My observation has been that nephritis is more likely to follow the mild cases than the severe cases, and I have thought that was because they were permitted to be up early. I have, therefore, made it a rule to require every one of these patients to remain in bed four weeks.

DR. F. S. CHURCHILL, Chicago: I want to speak of one point that is very important, and that is the statement that scarlet fever is not contagious after the third week. It is a generally accepted idea that scarlet fever is contagious as long as desquamation lasts. Mallory has made an investigation of the desquamation in which he found some organism which he thought might be the means of communicating the disease. I do not recall how long he persisted in the investigation, but until we know what is the specific organism in scarlet fever I think it would be a dangerous thing to let out of quarantine any child who is in the desquamating stage. I do not think that this section should allow the opinion to prevail that we do not believe that scarlet fever is contagious after the third week.

DR. J. W. VAN DERSLICE, Chicago: As to the development of scarlet fever in infants, I had an experience this winter which has some bearing on the question. A boy 6 years of age contracted scarlet fever. Six days later an older brother came down with an attack and three days later a breast-fed infant developed the fever. The infant had a moderately severe fever; the temperature was never higher than 103, pulse never over 130. During the three weeks it developed hundreds of petechiæ over the body. There was no other apparent complication. Dr. George Weaver made a microscopic examination of the blood, but nothing was found. The child died during the fourth week, apparently of exhaustion. In that case I had assured the mother that the child was practically safe from infection, but with all my assurances the mother was very careful of the child. We had a trained nurse; the child was never taken into the sick-room, and the mother never entered the room.

DR. H. B. WHITNEY, Denver: Whenever I ask students the treatment for any disease whatsoever I have noticed that they almost invariably reply: "Open the bowels with calomel, reduce the temperature, give plenty of fresh air and plenty of nourishing food." I have tried to get away from the routine method of procedure in scarlet fever and have paid considerable attention to the throat. I have been using with satisfaction the sozoiodolate of sodium which is not attended by danger, and which has been shown to possess marked bactericidal properties. An insufflation of the pure powder is made at each visit, and sometimes in the intervals by the nurse. In infants 1 to 2 drams of a 2 per cent. solution is given every hour, or in older children used as a gargle. With this I have also used at times a 50 per cent. alcoholic solution of resorcin. I can only say of this method that it has been satisfactory to me and that I have felt I was doing something rather than merely following a routine. In regard to the source of infection, in Denver a patient of mine told me that five families in the same street having a case or more of the fever had been taking milk from the same dairyman as she, and she wondered if the disease had been contracted in that way. I at once reported the matter to the health commissioner, an investigation was made and it was found that one of the milkers was in the desquamating stage. Over sixty cases resulted from this source of infection.

DR. CHARLES DOUGLAS, Detroit: Dr. Kerley referred to the fact that very young children did not take scarlet fever and also stated that they were not subject to sore throats. I find by examination of the throat always that children of that age have as much sore throat as older children.

DR. JOHN LOVETT MORSE, Boston: I wish to say a word. I believe that we should regulate the diet in scarlet fever as we would in nephritis, that with the idea of protecting the kidneys. We know that the kidneys eliminate the products of carbohydrate and fat digestion and metabolism very easily, but have

difficulty in eliminating the products of proteid metabolism, extractives and certain salts. Consequently we should cut down the foods that may irritate the kidneys, keep the milk low, cut out broths, beef tea, etc., entirely, and feed the child on carbohydrates, especially starches, diluted cream, and later green vegetables and fruits.

DR. T. G. ALLEN, Chicago: I have seen two cases that I was absolutely sure were scarlet fever and in which I could find no desquamation. That there are often cases without desquamation is to be assumed, as we frequently get cases of nephritis with a history of sore throat but no history of desquamation. As to immunity in infants due to the fact that the mother is nursing the baby, Dr. Van Derslice did not say whether the mother of his patient had ever had the disease. If the mother had ever had scarlet fever then his case may be taken as an exception to the law that in general communicable diseases produce antitoxins or antibodies in the blood and that these being also present in the milk confer a certain amount of immunity on the nursing child. If this mother never had scarlet fever then this case is a confirmation of the law rather than an exception to it. Dr. Van Derslice, however, is correct in believing that previous disease in the mother does not always confer immunity on the nursing baby. I recently saw a case of measles in a nursing baby six months old and I know that this baby's mother once had the measles. I have been in the habit of examining the urine of my scarlet-fever patients every two or three days, but I think that Dr. Kerley's plan is a better one. I commend especially his plan of leaving the necessary test tube and reagent at the home of each patient.

DR. W. W. BUTTERWORTH, New Orleans: Dr. Morse brought out the fact that the nephritis is due to the toxemia and it seems to me the part of wisdom not to use drugs that would only tend to precipitate such a condition. For that reason I would be opposed to the use of chlorate of potash. I think that possibly the blood picture will help us to clear up the matter of diagnosis. Our experience has led us to believe that sodium sulphite or sulphurous acid may have some value as a prophylactic in this condition. It can not have any injurious effect. If it is given to children in whose surroundings scarlet fever exists, my conviction is that none of these children will develop the disease.

DR. B. H. BLAIR, Lebanon, Ohio: I agree with Dr. Kerley as to the limited infectiousness of the disease in the early period of scarlet fever, also that it diminishes in infectiousness after three weeks. I also believe in the danger of communicating the disease from the nasal discharge or from the discharge in otitis media so common in these cases, and also the discharge from a suppurative adenitis. I should like to ask whether it is possible by the reaction of the urine to determine whether a case of hemorrhagic nephritis is the result of scarlet fever. Hemorrhagic nephritis, I understand, more often follows scarlet fever than it does diphtheria. I had a case a few years ago that I thought was diphtheria. There was no eruption and no desquamation. A hemorrhagic nephritis developed, but an ounce of urine was voided within twenty-four hours and on boiling it became consolidated. There was a general edema and edema of the lungs. Was that case one of scarlet fever rather than of diphtheria?

DR. T. B. COOLEY, Detroit: The question has been raised whether there is any possibility of a specific diagnosis of scarlet fever. I want to call attention to Schereschewsky's recent work on a blood reaction in scarlet fever analogous to that observed by himself and Fornet in syphilis. This was published in one of the late numbers of the *Münchener medicinische Wochenschrift*, and seems to me promising. Another thing of importance is the observations made in the London fever hospitals on the infectiousness of the later desquamation. They have been releasing patients in the late stages of desquamation, and there has been no increase in the number of "return cases." They lay more stress on the infectiousness of discharge from the nose, throat and ear. It is a question whether desquamation *per se* is ever infectious.

DR. C. G. KERLEY, New York: In reviewing the 515 cases I had no idea of going in detail. I attempted only to give the results in some essential points. As to the late desquamation not being infectious I made that statement advisedly. Whether it is wise to teach it is another thing. What we all want is the truth. I have repeatedly seen children during the latter stages of desquamation play with their fellows and other unprotected children in their own family, and these unprotected children did not take the disease. There must be some definite time, however, when a child who has had scarlet fever may return to his usual life. It is a safe rule that this time shall be at the completion of the desquamation period. In both of the cases of secondary desquamation in the child referred to, many unprotected children were exposed and not one developed the disease. One of these was in a summer hotel where the child came into contact with dozens of the unprotected children. The determination whether we have a streptococcus or Klebs-Loeffler infection to deal with will not help us very much. Only last year I had two cases of streptococcus membranous laryngitis. Examination of the membrane failed to show the diphtheria bacilli. Three other cases of this nature have been reported. I believe that in all severe cases the non-milk diet is the best one. The diphtheria antitoxin is of value only if there is a Klebs-Loeffler infection. There is absolutely no reason why it should be used under any other conditions.

As to the use of chlorate of potash, the danger from its use has been greatly over-estimated. When used in rational dosage, instead of being of danger to the kidneys I believe that, when there is marked angina, it tends to prevent nephritis. I believe that when we keep the throat as free as possible from infectious material we are doing much to ameliorate the general condition. The throat is unquestionably a distributing center for the contagium and other infections. If chlorate of potash had had the effect on the kidneys that is credited to it, the combination of chlorate of potash and iron used in thousands and thousands of cases of scarlet fever and diphtheria would have resulted in the death of nearly all to whom it was given. The chlorate in small doses, two to four grains at two-hour intervals, six doses in twenty-four hours, whether in measles, scarlet fever or other illnesses, has no more effect in producing nephritis than has diphtheria antitoxin in producing paralysis. As to the use of cold air I did not mean to imply that I undress the child, put him before a window, and let cold air blow on him. Such a procedure is not necessary in order to give the child fresh air.

DR. C. F. WAHRER, Fort Madison, Iowa: No less a man than Senator, of Heidelberg, advised the use of bacon-rind. I would not insist on bacon-rind; in fact, I advise the use of lard, with some mild antiseptic, as borie or salicylic acid, but the bacon-rind is better than nothing. I do not know whether we find more cases of hemorrhagic nephritis following scarlet fever than we do following diphtheria, but I believe that there are. Scarlet fever and diphtheria are very much alike in many respects, and we have many of the same sequelæ, so that it is not necessary for the doctor to assume that he had a case of scarlet fever without the eruption. We know that cases of diphtheria, diagnosed by the presence of the Klebs-Loeffler bacillus, have been followed by nephritis.

CHILDREN OF THE TUBERCULOUS.*

THEODORE B. SACHS, M.D.
CHICAGO.

A study of autopsy statistics, with reference to occurrence of tuberculous lesions at various periods of human life, discloses a vast discrepancy between the great frequency of postmortem evidence of tubercle infection and the rate of mortality attributable to the disease itself.

The figures drawn from postmortem findings vary according to the source of material, age at death, inter-

* Read at the Fourth Annual Meeting of the National Association for the Study and Prevention of Tuberculosis, held in Chicago, June 5-7, 1908.

pretation of lesions, exclusion of patients dying from tuberculosis, etc.

From Heitler's postmortem records[1], giving a percentage of 4.7 of obsolete tubercle in 16,562 cases, up to Nägeli's astounding estimate of 99 per cent., there is a vast number of observers whose figures vary between 30 and 70 per cent.

Autopsies on children dying from various causes show an increase in the frequency of tuberculous lesions with the progress of age, as would be expected from the gradually accumulating opportunities for infection.

Professor Ganghofner (quoted by Bulstrode) presents the following results of eighteen hundred autopsies on children dead of diseases other than tuberculosis:

TUBERCLE INFECTION IN CHILDREN DYING OF OTHER DISEASES.

No. cases.	Age in Years.	Percentage Infected.
460	1	7.1
536	1-2	16.0
476	2-7	24.5
271	4-6	26.9
123	6-8	26.8

These figures have reference to children of the poor and may possibly be found high for children of all classes. The fact is, however, obvious that the extremely frequent incidence of tubercular infection at various ages, as disclosed by postmortem findings, is out of all proportion to the actual development of the disease or its fatality.

Cornet, in his volume on tuberculosis in Nothnagel's "Practice," gives the mortality from tuberculosis in children under 15 years of age to each ten thousand of the living population as 8.85 per cent. for males and 10.44 per cent. for females, the proportion being much higher for the succeeding periods of life, viz., between 20 and 30 years of age, 34.68 per cent. for males and 29.14 per cent. for females. His figures show a comparatively high mortality in the first year of life, a gradual decrease up to ten years, and then a progression in the number of cases for each following decade until seventy.

INVESTIGATION: (a) FREQUENCY OF TUBERCULOSIS AMONG CHILDREN OF TUBERCULOUS PARENTS; (b) INFECTION AS A FACTOR.

If autopsies on children of various classes disclose, in a large proportion of cases, imprints of tuberculosis in the lymphatic system, lungs and other organs, the children of tuberculous families, in constant contact with the ever-present source of infection, must of necessity furnish a much higher percentage of cases.

The present investigation was undertaken with the object of determining, if possible, the prevalence of tuberculosis among children of tuberculous parentage; with this in view, 146 families with one or both parents known to be tuberculous, were selected from the records of the Chicago Tuberculosis Institute, the Visiting Nurse Association and my private practice.

The parents were classified as follows:

	Fathers.	Mothers.
Tuberculous	32	58
Dead from tuberculosis	43	22
Non-tuberculous	71	66

In seven families both parents were tuberculous. Fifty-eight per cent. of all deaths from tuberculosis among the parents occurred within one year preceding the investigation; 79 per cent. within two years.

The families were of the average laboring class, living in the poorer districts of this city, in most cases impoverished by the protracted illness of father or mother. It is evident, then, that the prevalence of tuberculosis among children under such conditions was dependent on the operation of various factors, as close contact with the source of infection, generally an unhygienic and crowded home, and poverty with all its attendant unfavorable conditions of life.

The results of the investigation were as follows:

Total number of families, 146.	Born.	Died.	Living.	Exam.	Tuberculous.	Non-Tuberculous.
Born before parent became tuberculous	458	93 (20%)	365	230	126	104
Born after parent became tuberculous	155	41 (26%)	114	92	45	47
Total	613	134	479	322	171	151

An estimate of the incidence of tuberculosis among these children can be drawn from the consideration of 77 families, in which the entire number, viz., 264 children, were examined; in 76 of the children, 29 per cent. of the total number, positive evidence of tuberculous infection was found (among children under 10 years of age the percentage was 25).

An investigation of the same seventy-seven families gives a total of 28 per cent. of tuberculosis for the children born before the parent became tuberculous and 31 per cent. for those born after; the higher percentage of tuberculous cases among the second category of children can not be solely ascribed to the lower resistance of children born of parents tuberculous at the time of their conception; consideration must be given to the effect of poorer surroundings, into which the tuberculous sufferer gradually drifts with the progress of his disease, as well as to the closer contact of younger children with the source of infection.

The mortality from various causes in the first group of cases was 20 per cent.; in the second, 26 per cent. Of the entire number of deaths up to the time of the investigation, 47 per cent. occurred in the first year of life, 16 per cent. in the second.

Ten per cent. of the mortality was ascribed to tuberculosis, 35 per cent. to whooping cough, pneumonia and measles, diseases the designation of which frequently obscures the real cause of death among tuberculous children.

Ninety per cent. of the examined children were breast-fed.

BASIS OF DIAGNOSIS.

Of 171 children found to be tuberculous, 42 (or 25 per cent. of the total number) were above 20 years of age; this was responsible for a considerable increase in the total number of tuberculous cases, as well as the greater frequency of lung findings.

Fourteen individuals, mostly over 20 years of age, had tubercle bacilli in the sputum.

In 72 the diagnosis was based on physical signs, pointing generally to involvement of one apex, combined with afternoon or evening rise of temperature, chronic cough in a few and a variable degree of constitutional disturbance in all. In the majority of those under 15 years of age the physical signs consisted of impaired resonance or absolute dulness over one apex, slightly modified breath sounds, roughened or diminished, bronchial in a few, at times a slight retraction of one

1. Quoted by H. Timbrell Bulstrode, M.D., in his Report on Sanatoria for Consumption and Certain Other Aspects of the Tuberculosis Question, a supplement of the 35th annual report of the Local Government Board, London, 1905-'06.

apical region and in a certain number of cases crepitation at the end of the inspiratory note. In none of these cases was the diagnosis based on physical findings alone, unless corroborated by the existence of fever, generally a half to one or one and a half degrees above normal, and various other symptoms.

Of the remaining other 85 cases, 9 presented suppurating cervical glands; 2 miliary tuberculosis; 3 pronounced general glandular enlargement, fever and other corroborative symptoms; 7 tuberculosis of bone and joints; 1 tuberculosis of the skin; 4 Pott's disease; 4 were cases of bronchitis, considered tuberculous because of recurring fever and positive tuberculin reaction; in 25 the diagnosis was based on history, general condition, fever and positive cutaneous tuberculin reaction; 20 presented signs pointing to the possible involvement of bronchial glands, the diagnosis being based on that, the accompanying fever, general condition and positive cutaneous tuberculin reaction; 10 patients, chiefly over 15 years of age, showed signs of an arrested tuberculous lesion in the lung.

These cases were distributed among the following ages: Four under 1 year of age, 16 between 1 and 5 years, 36 between 5 and 10, 43 between 10 and 15, 30 between 15 and 20, and 42 above 20.

One hundred and six of these patients (chiefly those under 15 years of age) were subjected to the cutaneous tuberculin test, with the following results: Eighty-three positive reactions, 12 doubtful and 11 negative.

RANGE OF TEMPERATURE.

Of the vast number of children infected in the homes of the tuberculous, only a fraction, at a given time, may manifest signs and symptoms of a rapidly progressing tuberculous bronchopneumonia, general or miliary tuberculosis, meningitis or any other fatal type of the disease. The disturbances of temperature met in this class of cases are too well known to require further description.

Of chief concern in this investigation were the predominant class of tuberculous children who either show slight, at times indefinite, signs pointing to the site of a small lesion, or in whom, even after a thorough study of the mild manifestations of the disease, only a general diagnosis of "tuberculosis" can be made.

If it is a small lesion in the apex or probable involvement of the bronchial glands, the accompanying fever may be mild, requiring systematic observation for its detection and a knowledge of the normal range of temperature of the individual child.

In order to obtain a basis for comparison, diurnal measurements of temperature were taken in 250 apparently healthy children in three institutions which recruit their inmates from families of working men living in various parts of the city; this last condition was considered essential in order to parallel as much as possible the social and hygienic surroundings of the tuberculous children under discussion in this paper. Children suspected of being tuberculous, either on physical examination or on application of the cutaneous tuberculin test, were excluded.

The results of this investigation showed wide fluctuations of morning (9 to 10) and afternoon (4 to 6) temperatures.

In the ages between 5 and 10, the morning temperature, taken by mouth, varied between 99.4 and 100.4 F., the average being 99; the afternoon temperature, 97.4 to 100.5, average 99.3. For the ages between 10 and 15, the morning temperature varied between 98 and 100.2, average 98.2; afternoon, 98 to 100.2, average 99.2.

In the children pronounced tuberculous in this investigation the morning temperature, taken by mouth, for the ages between 5 and 10 years, varied between 97.6 and 99.6, average 98.3; afternoon, 98.2 to 101, average 99.7. Between the ages of 10 and 15, the morning temperature varied from 97 to 99.6, average 98.4; afternoon, 98.8 to 100.4, average 99.5. Between the ages of 15 and 20 the morning temperature was 97.4 to 98.6, average 98.2; afternoon, 99.2 to 100.2, average 99.6.

In a large number of cases the noon temperature was the highest of the day.

The present investigation led to the following conclusion:

1. A child infected in the surroundings of a tuberculous patient may show but a slight rise of temperature above normal, the rise not exceeding a few tenths to one degree.

2. This deviation from normal temperature may occur late in the afternoon (4 to 6 p. m.), in the evening, or frequently at noon.

3. The existing range of temperature of a tuberculous child is subject to considerable variations, caused at times by trivial factors.

4. The children in whom mild tubercle infection causes but slight deviations from normal range of temperature may display at times "waves" of fever, of a few hours' to a few days' duration, these disturbances being caused either by extension of the lesion or more vigorous absorption of tubercle toxins.

5. In order to gain an idea of the fluctuations in temperature of a child suspected of having tuberculosis, the temperature should be taken several times a day and for a reasonable period of time.

HABITUS PHTHISICUS.

At the time of their birth and in the first few years of life a vast majority of children of tuberculous parents may show in their general appearance no deviation from the normal type.

An offspring of a consumptive mother in the advanced stage of the disease may be handicapped from the outset by imperfect physical development, low grade of nutrition and lack of vital resistance—a condition characteristic of the various types of children born of parents in an undermined state of health.

Cornet and others suggest that the habitus phthisicus encountered in a certain number of tuberculous individuals may be the result of antecedent tuberculous infection.

On measuring the chests of three hundred children in the families of tuberculous parents, I found that in the first year of life the type of chest, in nearly all, does not deviate from the almost circular normal type, the ratio of the anteroposterior and transverse diameters being 8 or 9 to 10. This ratio gradually changes to the average of 81 or 84 to 100 during the first five years, 77 to 100 between 5 and 10 years of age, 72-75 to 100 between 10 and 15, and 74 to 100 between 15 and 20 years.

Poverty and unfavorable home surroundings were partially responsible for the low grade of nutrition in about one-third of the 322 children examined.

INFLUENCE OF ENVIRONMENT.

The 146 families under investigation were of the class in which the combination of poverty and crowded, unhygienic home would naturally favor the spread of infection. This explains the higher percentage (29 per cent.) of positively tuberculous children.

In his paper on "Schools and Tuberculosis," read at the last annual meeting of this association, Dr. J. H. Lowman gave 20 per cent. as the number of positive and suspected cases of tuberculosis among children in more or less close contact with a source of infection.

Grancher[2] found 15 per cent. of positive or suspected cases of tuberculosis among 4,226 school children of Paris.

In our quota of cases all the children examined were in close contact with a prolific source of infection in their homes, the majority of the parents suffering from pulmonary tuberculosis in the advanced stage.

CUTANEOUS TUBERCULIN TEST.

The cutaneous tuberculin test of von Pirquet (25 per cent. solution) was employed in 217 children of the 322 examined.

RESULTS OF THE VON PIRQUET TEST.

Age.	No. Children.	No. positive.	Percentage positive.	Percentage negative or doubtful.
1	8	2	25	75
1-6	58	25	43	57
7-14	108	53	49	51
15-20	28	17	60	40
20+	15	11	73	27

These figures agree to some extent with the result of the same test employed in 460 positive or suspicious cases of tuberculosis by Dr. Petruschky, whose article appears in the May number of *Tuberculosis*, the monthly publication of the International Tuberculosis Association.

Dr. Petruschky's results were as follows:

	Percentage positive.	Percentage negative or doubtful.
12 sucklings	0	100
22 children from 1 to 6 years	50	50
148 children from 7 to 14 years	75	25
69 children from 15 to 20 years	86	14

The rare occurrence of positive cutaneous tuberculin reaction in the first year of life is as significant as the gradual increase with age in the number of positive reactions.

The occurrence of 108 positive tuberculin reactions in our 218 cases, or 49.5 per cent., can be compared with the results of application of the test by von Pirquet to apparently healthy children (about 15 per cent.).

CONCLUSION.

Incidence or infection of children by tuberculous parents must, of necessity, vary with the different conditions of life.

Lack of hygiene, combined with enforced closeness of contact in the homes of the poor, facilitate the more widespread dissemination of the infecting agent.

While the detection of the well-developed forms of tuberculosis in children is possible with the aid of the present diagnostic methods, the implantation of the tubercle germ does, no doubt, occur in a wider circle of instances.

To what extent hereditary predisposition is responsible for the development of the disease in individual cases can never be determined, according to Cornet, until the factor of infection is completely eliminated.

2. Quoted by E. R. Baldwin in Osler's Modern Medicine.

The question of connection between tubercle infection in infancy and childhood and the manifestations of the disease in later life is still awaiting a solution.

The researches of von Behring, Calmette and others are gradually turning the trend of modern medical thought toward an interpretation of the term "predisposition" as a susceptibility of the tissues dependent on antecedent infection.

Of the large number of children infected through close contact with tuberculous parents, only a certain proportion present the well-known manifestations of a fully developed disease of the lungs or other organs; in the vast majority the incidence of infection remains unrecognized.

The increase in the frequency of tuberculosis with the advance of age from childhood to adult life makes it evident that eradication of tuberculosis in the human race can never be accomplished unless the child, first of all, is protected from infection.

In conclusion, I wish to express my appreciation of valuable services rendered in this investigation by Dr. M. Biesenthal, my associate, and the nurses of the Chicago Tuberculosis Institute and of the Visiting Nurse Association.

100 State Street.

THE PROBLEM OF HEART MALADIES.

ALEXANDER G. BROWN, M.D.

Professor of Theory and Practice of Medicine, University College of Medicine; Physician to Virginia Hospital.

RICHMOND, VA.

In the category of disease there are many problems. Chief among these are the cancer problem, the tuberculosis problem, and the problem of the infections. These widespread disease conditions, affecting many human lives, justly engage the attention of medical men. Every means of investigation and research looking to the protection of these immense interests should be thoroughly and completely exhausted. Each one of these problems has its peculiar and individual characteristics; each has its distinctive origin, its mode of propagation and its means of correction. But I wish to emphasize the importance of another problem, no less serious, no less widespread and no less vital to the welfare of mankind than those above referred to, and that is—the heart disease problem.

By the light of recent investigation of this subject, by the great advances made in the study of the cardiac processes, and by the success achieved from the new work over those formerly unsolved problems of heart pathology, medical investigators and clinicians have forced this important question to the front, where it is now receiving just consideration. In taking up the study of the heart problem (which, in a brief paper, can only be outlined), one should point out certain facts regarding present knowledge of the physiologic action of the heart, give a résumé of the most prevalent causes producing abnormality of that organ, and show the agencies necessary to abridge the frequency of its occurrence or to make this disease process most impotent in its curtailment of the comfort and safety of persons.

To show that it is a question worthy of attention, I shall adduce two illustrations. I have before me an insurance report covering the cause of death of 9,592 selected white men, dying after reaching 21 years of age. These men were chosen as to vocation, being in

no way connected with the manufacture of alcoholic beverages, nor engaged in any hazardous employment, living, it might be said, the better life of the American citizen. These men were selected as to their family histories being free, as far as possible, from hereditary taints. These men were chosen after careful inquiry into the personal history, each being free from the effects of any previous illness. Lastly, they were subjected to a physical examination as to the soundness of their organs and were pronounced as being first-class specimens of physical manhood. This record of 9,592 deaths shows many different causes. Nearly every disease in the category of disease appears there, but the astounding fact is that of the 9,592 deaths, 1,255 were caused by heart disease: and this without including the deaths from the diseases of the blood vessels.

In a recent editorial[1] a medical journalist said: "During the year just ended (1907) heart disease is reported to have caused many more deaths than in 1906; in Chicago and Boston 13 per cent. more; in New York City 29, in Detroit 26, in Philadelphia 5 per cent."

More statistical evidence could be presented to show the place of importance of the maladies of the heart as a cause of death, but this is unnecessary. The statement of the frequency of heart disease as a cause of death is undebatable.

Of late years the study of the heart has been extensively carried on by physiologists and clinicians. The present views[2] of modern physiology of the heart began with Ludwig of Leipzig a quarter of a century ago. The ideas advanced and advocated by him were based on the study of the frog's heart. With him the vagus was the actuating and maintaining force in heart beat. Later Gaskell, investigating the heart of the land tortoise, upset the idea of vagus inspiration of heart beat and enunciated the belief in the myogenic origin of heart beat. He described the beat beginning in the sinus venosus and conducted by the musculature on to the ventricles. This view was confirmed by Newell Martin of America. Then came McWilliams, who showed the similitude of the hearts of the cold-blooded animals and of mammalians. Later another factor was introduced into the discussion of the cause of heart beat and its propagation by Ringer and Loeb, who showed that the ions were of value in muscular conduction. G. N. Stewart states in his work in regard to the cause of heart beat: "It is unquestionable that for the normal beat of the heart the presence of both salts (calcium chlorid and sodium chlorid) is one of the necessary conditions, but there is no solid foundation for the view that either the one or the other acts as a special chemical excitant of the automatic contraction."

In late years the renewed study of the bundle of muscular fibers originally discovered by His, Jr., by modern investigators, chief among whom are Retzer and Hernig, has revived the belief in the myogenic view of heart beat. Mills describes this bundle of muscle fibers as beginning just below the fossa ovalis (mammal) and running forward and downward through the fibrous ring between the auricles and ventricles to blend with the musculature of the interventricular septum. This little muscular connection between the auricles and the ventricles has assumed a rôle of greatest importance in the propagation of the heart's action. But Mills says, after many experiments and an extended study of the physiologic problem which has occupied preëminence in the minds of investigators for years, that in man's heart the beat of the heart is dependent on the three factors, chemical, muscular and nervous, and its automatic action is maintained by this trinity of interests. Mills states that "the exact share each takes it is impossible to determine at this time."

The abnormalities of the heart are numerous, being pericardic, endocardic, myocardic, neurotic and circulatory in types. The causes are as varied as are the pathologic effects. But for convenience these causes may be grouped, operating with more or less frequency and severity in all these several kinds of heart disease.

The infectious diseases lead all other causes in importance. The infections affect the heart in every part. They involve its integrity and often assail its continued operation. They leave its structures lame and impotent. Chief among these infections is acute rheumatic fever. There are also diphtheria, scarlet fever, smallpox, pneumonia, gonorrhea, erysipelas and measles, which affect the heart deleteriously. Also conditions of deranged metabolism (both systemic and cardiac), of occupation, of habit in eating and drinking, of systemic arterial change, of coronary sclerosis, of hemic disorders and interstitial degeneracy in viscera, operate as causes in producing lesions of the heart.

Let us specify as to the rôle played by acute rheumatic fever.[3] Church recorded 889 cases of rheumatism, with 494 cases of acute or chronic endocarditis. Thompson recorded 706 cases of rheumatism, with 329 cases of endocarditis. Among 500 cases of rheumatism admitted to Bellevue Hospital, says Lambert, 253 showed endocarditic inflammatory involvement. Thus, says Lambert, in the total of 2,095 cases of rheumatism, 1,076, or 51.3 per cent., showed signs of cardiac derangement of this type. Then we may assert that acute rheumatic fever, as well as other infectious diseases, is active as an agent in the production of cardiopaths, of whom there are countless thousands. The heart in which previous disease has left peri- or endocardic morbidity, or myocardic degeneracy, or nerve-derangement, must be in more or less jeopardy unless those silent but insidious processes which work its undoing and embarrassment are controlled by careful expert attention and treatment.

Pari passu with the enlightenment of heart physiology has come knowledge for determining the nature of cardiac morbidity. Many pathologic states formerly mystifying are now being solved. Much insight has been gained as to the accurate relationship of the auricular and ventricular systole. New light has also been thrown on the probable integrity of the cardiac myocardium by these recent advances in the study of heart diseases.

Formerly the mechanical aspect of cardiac conditions was the chief consideration of clinicians in the study and treatment of cardiac diseases. The murmur resulting from restricted or regurgitant valvular action was the major consideration. The degree of hypertrophy or dilatation and coincident physical signs claimed the attention of the internist.

These elements of heart study have yet important significance, but now, under the wise leadership of such physiologists as Gaskell, Engelmann, Wenckebach, Cushny and others, important advances[4] have been made, and the action, integrity and usefulness of the

1. THE JOURNAL A. M. A., 1908, l, 44.
2. Mills: THE JOURNAL A. M. A., 1907, xlviii, 190
3. Lambert: THE JOURNAL A. M. A., 1908, l, 741.
4. Erlanger: THE JOURNAL A. M. A., 1907, xlviii, 1343.

myocardium are being accurately studied by clinicians in all morbid processes of the heart. The mere invalidity of the valve leaflets and the degree of valvular disease is no longer the sole thought in the study of heart valvular disease. The investigation of the functional derangements of the heart received a great impetus under the influence of the newer discoveries in heart conditions. By the tracings of the venous pulse, by the estimation of the rhythm, excitability, conductivity and synchronicity of cardiac action in its several parts, by the more accurate and earlier determination of tricuspid insufficiency denoting the impending dangers, by the accurate inquiry into the extrasystolic behavior of the auricular and ventricular muscle, in varied systemic and local conditions, valuable and far-reaching truth has been gleaned regarding the diseases of the heart. The numerous instruments of precision used to accomplish this state of knowledge need not be mentioned here.

Having exploited our present-day improvement in the knowledge of heart diseases, its ubiquity and frequency being acknowledged, let us outline means for the prevention of these diseases and the measures that may be adopted for the prolongation of the usefulness and the life of cardiopaths. The prophylactic phase of the problem can be outlined in one sentence. The infectious diseases, as well as those conditions above referred to as producing these heart maladies, should be constantly kept in mind by the medical attendant.

All the means and rules suggested to every thinking mind need not be cited here.[5] The mere statement that, to prevent the increased occurrence of heart pathology and its harmful intercurrent conditions, one should teach and preach, in season and out of season, in the sick room and out of it, those natural and self-suggesting lines of conduct which will tend to abridge and curtail the frequency of cardiac disease, is all that the occasion requires. Cardiopaths may be divided into three general classes, (1) those in whom the compensation is perfect; (2) those in whom compensation is waning; and (3) those in whom compensation is lost.

To speak intelligently of this question, we must acknowledge a number of minor classes of cardiopaths. But this division will suffice for our present purpose. The main question is by what means can the first group be kept as such, and how can the largest number of those falling under the second and third groups be reclaimed and placed in the first group. In other words, the duty of the profession to the cardiopath is to support the musculature of the heart.

Some writers on this subject adhere to the old method of dealing with medical matters, an attitude of secretiveness. Instead of withholding the knowledge of a heart lesion, the patient should be informed of the fact. Heart disease should be discovered early and treated persistently to ward off manifold and serious results. Publicity and education are needed. The public should be taught that heart disease, while serious and demanding medical attention, is amenable to treatment. The alarm and the fright incident to the revelation to the patient that heart disease exists can be avoided by the proper education of the public as to the nature, course and termination of the disorders of the heart.

The fact is that there is probably no organ of the body that possesses more hardihood than the heart. Many have been the times when, under treatment, patients appearing almost in the last stages of morbidity from heart disease have improved to the most incredible degree, and for a long time thereafter the heart has been made to do compensatory work. Again, patients presenting a state of cardiac derangement most alarming to the examiner have lived for years in apparently good health. The heart is amenable to treatment, and that treatment should be begun at once and maintained, with more or less constancy throughout life.

I would urge that the first and most fundamental step to be taken in trying to protect the cardiopath from an untimely end is publicity. Candor, attended by patient and careful explanation, will do much to assist in the correction of this widespread disease problem. Then, too, the profession should be quick to appreciate the importance of this disease problem and begin to preach with that same laudable freedom of its dangers as is now being done in the case of other medical problems. Those cardiopaths in whom the compensation is good, in whom the conductivity of the auriculo-ventricular bundle is good, in whom the musculature is supporting cardiac action, may need little or no medicine, but they should, nevertheless, receive the attention and direction of the medical expert as to matters affecting the lesion. The regulation of the kind and amount of exercise, the selection of vocations best suited to the support of the myocardium, the suggestion as to the curbing of certain harmful practices, the education of the cardiopath in matters of marriage, the instruction of the kind of clothing to be worn under certain conditions, the taking of baths, the character of the food, the danger of intercurrent sickness, the use of drugs, the changes of climate, and the dangers of sudden and unexpected death are some of the questions which the medical attendant should consider in treating the cardiopath in this stage.

The conditions of the second and third group must be met with the same candor, but a little more skilfully and carefully. The supervision of the patients of the second group must be more constant, and the management of these cases must be more rigid. Most careful physical examinations and careful testing of the properties of the heart by instruments of precision must be conducted frequently, and remedial measures, whether medicinal or otherwise, must be instituted to regain the compensation beginning to be lost. In these cases cooperation of the patient is of the most imperative significance, as is also the intelligent comprehension of the danger of his condition.

In this class may be placed that group of cases where auricular and ventricular systole want synchronicity, by whatever intercurrent cause brought about, or where the heart block is partial. The same candor and explicit explanation should be accorded these cases, in order to secure success in their management.

The details of the medical management can not be gone into here. Medicines, exercises, special baths, prescribed rest and other means, together with the supremacy of the medical mind over the patient's, may be required to place these cases into the group of compensatory action.

The third group in this problem presents a syndrome only to be compared to the last stages of cancer or phthisis. But, unlike these conditions, heart disease, with its discomforting symptoms of dropsy, dyspnea, surging heart beat and throbbing jugular, etc., offers a field for most brilliant medical achievement. So frequent are the recoveries, and so accustomed are we to

5. Hirschfelder: THE JOURNAL A. M. A., 1907, xlviii, 1105; McCaskey: Id., 1107; Hewlett: Id., 47.

these demonstrations of medical success, that proper and just credit is not accorded the physician for such efficient work, placing, as he does, a patient in imminent danger of dissolution, as surely as if he were affected by any other deadly process, in a condition of usefulness and comfort to live out the allotted life period.

In conclusion, I plead for a more careful treatment of infectious diseases during the acute as well as convalescent stage. Protect the heart. I plead for a more extensive study of cardiovascular diseases, believing it to be fruitful of gratifying results in treatment. I plead for a more general practice of candid and frank statement of heart conditions early in the history of the case. I plead for public education as to prevalence of heart disease, its untimely consequences, and the hope of great protection under medical treatment.

1135 West Franklin Street.

THE NEISSER OR GONOCOCCUS VACCINE IN GONORRHEAL AFFECTIONS OF THE GENITOURINARY TRACT.

AN EXPERIMENTAL STUDY.

NOAH E. ARONSTAM, M.D.
DETROIT, MICH.

This paper embodies the results of my experiments with the gonococcus bacterin or vaccine. The report is merely tentative and preliminary; a subsequent report will probably give more valuable data concerning this form of treatment. For the last six or seven months I have extensively employed this method of treatment in a number of gonococcic affections invading the genitourinary organs. I have utilized the vaccine not only in the maladies engendered by the gonococcus primarily, but also in the various complications and sequelæ of this type of infection. The cases are varied and embrace different stages and forms of the original malady. The number of cases wherein opsonotherapy was employed was 54, comprising acute and chronic gonococcic urethritis, epididymitis, prostatitis, seminal vesiculitis, adenitis, gonorrheal vaginitis, gonococcic arthritis and the rarest sequelæ of gonorrhea—gonorrheal iritis.

VALUE IN ACUTE AND CHRONIC CASES.

In the acute stage of this affection the treatment was attended by favorable results, pre-eminently so in acute specific urethritis, epididymitis, prostatitis and cowperitis. In the granular form of this affection the results were negative. Only stock vaccine was used and from twenty to forty millions of vaccine—according to the exigencies of the case—were injected in the region of the hip. In the chronic states of this infection, especially in chronic posterior gonococcic urethritis, its utility is doubtful, although some improvement was always noted. No other treatment was instituted, whether internal or topical. Opsonotherapy was the sole agent employed, in order to test its efficacy. The number of injections used in a given case varied from three to eight, and the length of time required to effect a cure in the acute form of gonococcic urethritis ranged from five days to four weeks; on an average the minimum period was ten days and the maximum three weeks.

The vaccine or bacterin possesses a diagnostic as well as a therapeutic value. It is a powerful means of bringing to view latent gonococcic states. Hence as a diagnostic agent it may be implicitly relied on in doubtful cases, especially when the question of matrimony is the paramount issue. There are cases wherein objectively and microscopically all vestiges of the disease seem to have been eliminated, and yet on injecting the gonococcic vaccine the discharge reappears, thus putting us on our guard and demonstrating that the morbid process has not as yet come to a termination.

Gonococcic vaccine acts similarly to tuberculin in disclosing latent and dormant conditions that would otherwise have escaped detection.

In gonorrheal arthritis, for instance, even after an apparent cure, the bacterin will usher in a mild recrudescence of the arthritic process, thus denoting indisputably that the disease has not been entirely eradicated. The same principle applies to affections of the posterior urethra, the result of gonococcic invasion. Seemingly the individual is free from all symptoms. Repeated microscopic examinations of the filaments and flocculi in the urine have proved negative, so that the practitioner is justified in declaring his case "cured"; but on injecting the vaccine he will be surprised to note the reappearance of the symptoms and will then be able to demonstrate with facility the presence of gonococci and other bodies in the sediment on centrifugalization. It would be superfluous to give any specific instances, as this paper deals solely with the essential and salient features appertaining to this method of treatment.

Of course, the most careful aseptic precautions should be exercised in the administration of this remedy. The parts should be thoroughly disinfected, the syringe and needle boiled and every effort made to render the area free from any accidental infection. The pain engendered by its use is very insignificant; a slight burning sensation for a few minutes is all that the patient experiences. Occasionally the injection area may become somewhat inflamed; it disappears in a day or two.

REACTION FOLLOWING INJECTION.

A word about the reaction following the injections. In nearly all cases there ensues a constitutional as well as a local reaction; it is an effect that may always be anticipated. Yet it is not very marked and passes off in a short time. The reaction varies with different individuals, largely depending on the idiosyncrasy of the patient, the intensity of the morbid process, the presence of an additional or mixed infection, the duration of the malady, etc. The temperature may rise from one-half to one and one-half degrees Fahrenheit; there may be slight chilly sensations with some headache and muscular soreness. But the next day the patient feels better and is able to attend to his work.

The Negative Phase.—The local process now becomes more or less intensified; the discharge is markedly increased and there is slight burning on micturition. We term this the negative or reaction phase of opsonotherapy. This reaction is the more pronounced if we have to deal with a gonococcic infection, pure and simple; if other bodies are present at the same time, however, the reaction is *nil* or very mild. Hence, if a gonococcic urethritis is complicated by other pus cocci, the vaccine loses its efficacy. This is the reason it does not always act favorably in chronic cases. In such instances the conjoint administration of both the gonococcus and staphylococcus vaccine becomes necessary. Bacteriologic examination in all cases, irrespective of their stage, becomes imperative in order to ascertain the

exact infection one has to contend with. It is a procedure that greatly facilitates the treatment.

The Positive Phase.—After the negative period has existed for about two, or at the utmost three days, the positive phase makes its advent. It is characterized by a decline in the severity of the pathologic process a retrogression of the morbid condition takes place either gradually and slowly or with great rapidity, and at times abruptly, the latter only in exceptional instances, however. This should constitute our guiding factor in repeating the injections, as well as in computing the dosage. At times it may be necessary to repeat the dose at short intervals if no improvement ensues, while again we must not only lengthen the interval, but also reduce the dosage to half of the usual amount, which is twenty millions. As a routine procedure it may be said that twice a week is all that is necessary and the latter should never be exceeded save under exceptional circumstances.

SUMMARY OF RESULTS.

To summarize briefly the results obtained by this particular form of treatment of the affection under consideration, they may be formulated as follows:

1. In acute cases the vaccine acts beneficially, and the time necessary to cure the disease does not exceed four weeks.

2. In some of the complications of gonococcic urethritis, such as epididymitis, cowperitis and acute prostatitis, as well as in gonorrheal adenitis and in involvement of the lymph channels on the dorsum of the penis and in posthitis of the same origin, threatening phimosis, it may be confidently relied on. In the above complications it acts very beneficially and efficaciously and may be considered curative. Lately I have also used it with success in an affection, only rarely encountered during the course of gonorrhea, and which has been denied by authorities, namely, gonorrheal iritis. It is a distinct disease entity and may be seen complicating an arthritis of the same origin or appear independently during the subacute stage of the disorder and during an acute exacerbation of a chronic urethritis.

3. No other treatment, whether systemic or local, is necessary, and irrigations and injections may be entirely dispensed with.

4. In chronic cases it is inert and acts indifferently, owing to the fact that in these conditions one has to deal with a mixed process. The conjoined use of other bacterins, therefore, suggests itself. In these instances the gonococcus vaccine *per se* has reached its limitations.

5. It is a valuable diagnostic agent. It brings to view latent or dormant conditions and thus affords a most important diagnostic means in definitely deciding on whether a given case has been actually cured, which is of inestimable value for sociologic reasons.

6. In dormant gonococcic arthritis it will bring about a recrudescence of the disease. In this sequela it materially shortens its duration and brings about a speedy restitution to the normal.

7. No exact rule can be laid down as regards the dosage and the intervals of the administration of the bacterin; each case must be treated individually.

8. The future possibilities of gonococcic vaccine in particular and opsonotherapy in general are unlimited, promising to give us a new and unexplored field of scientific inquiry. Its bearing on prophylaxis must also be considered and furnishes material for future research. As it now stands the subject is merely in its infancy.

CONCLUSIONS.

Our former conception as to the local aspect of gonococcic, urethritis is erroneous and dangerous, endangering not alone the individual, but also the family and state. That the process is not merely local can be readily adduced from its many and far-reaching complications and sequelæ, as well as by the reaction obtained on the administration of the vaccine, confirming beyond controversy the fact that we have to deal with a constitutional or systemic process of varying degrees of severity that should be combated both locally and constitutionally, notwithstanding the optimistic views of many who hold this affection to be solely a local pathologic invasion.

73 Shurly Building.

HYDROTHERAPY: METHODS OF APPLICATION WITH RESULTS

AS USED IN THE PHILADELPHIA HOSPITAL FOR THE INSANE.

WALTER G. BOWERS, M.D.
Assistant Physician, Philadelphia Hospital for the Insane.
PHILADELPHIA.

The purpose of this brief report is to demonstrate what has been accomplished in hydrotherapy in the Philadelphia Hospital for the Insane since the installation of the hydrotherapeutic plant in April, 1907.

The apparatus and the facilities for hydrotherapy are as follows: A douche room containing rain and spray baths, sitz baths with liver spray, perineal and Scotch douche, steam and immersion baths, all operated from control table; shampoo apparatus with marble massage table; three hot-air cabinets for patients sitting, and one for patients reclining; dressing and lounging room with four pack and massage rooms; eight special porcelain tubs for continuous flowing bath, four for males and four for females.

The hydrotherapeutic department is under trained male and female operators, the male patients receiving treatment between 8 and 12 a. m., female patients between 2 and 6 p. m. daily.

Selected patients were given special treatment in both continuous baths and douche room. During the past sixteen months fifty cases were treated in the continuous flowing bath, the length of treatment being from a few hours to seven days in duration, the temperature of the water ranging from 85 to 110 F. Most of the patients treated were excited ones, in whom motor restlessness was marked. They represented cases of mania, acute, chronic and recurrent; excited types of dementia præcox; maniacal episodes of epilepsy, dementia paralytica and senile dementia; alcoholic insanity and insanity of chorea. Most of these patients were greatly benefited by the treatment, especially in the cases of mania, excited cases of dementia præcox, senile dementia and toxic cases, including insanity of chorea.

A brief note on three of the cases will show the improvement observed:

CASE 1.—Daniel D., aged 30, white (mania (acute)). On admission this patient was garrulous, vituperative, restless, noisy and hostile in manner. He was placed in the continuous bath Oct. 16, 1907. The temperature of the water was 100 F. Little or no improvement was noted at the end of the first

day. On the second day the temperature of the water was raised to 105 F. The patient began to show improvement, which gradually continued, and at the end of the fifth day motor restlessness ceased and the patient was no longer garrulous and noisy. In this case a permanent benefit was observed and the patient was discharged a few weeks later, restored.

CASE 2.—Frank D., aged 55, white (toxic insanity, alcoholic confusional), noisy and restless, fearing that he was about to be killed. The patient was placed in the bath June 19, 1907, at 5 p. m. The temperature of the water was 100 F. The patient gradually became quiet, and at the end of the third day was no longer fearful or agitated.

CASE 3.—John P. R., aged 18, white (insanity of chorea). The patient was restless with general choreiform movements. He was placed in the bath June 26, 1907, at 11 a. m. The temperature of the water was 95 F. At the end of three days movements became decidedly less in number and extent.

No restraint is used while patients are in the bath. They are allowed house diet with milk and eggs between meals, and careful attention is paid to the emunctories. Sedatives and all forms of internal medication are removed while the patient is in the bath, save on occasional indication for diffusible stimulants. Despite careful padding of tubs, a few patients developed superficial excoriations over the regions of the scapulæ, shoulders, buttocks and elbows. Others complained of tender palms and soles, only, however, after being in the tub several days. One case of acute eczema, involving thighs, legs and feet, which was somewhat refractory to treatment, developed in a colored patient after he had remained in the bath five days.

In two other cases a skin rash, resembling impetigo, developed which was transient in character. We have also treated patients with ichthyosis and psoriasis with at least temporary benefit.

The same care used in selecting patients for the continuous flowing bath was used in selecting patients for treatment in the douche room and hot air cabinets, as little save the detergent and slightly stimulating effect of the baths can be expected from hydrotherapy in the treatment of the chronic insane. Excellent results were obtained by the use of hot air cabinets in toxic cases, especially the acute alcoholic insanities, also cases of mania and uremia; patients in such cases were kept in the cabinet until a profuse sweat was induced. While in the cabinet the patients drank freely of water. They were then given a spray and rain bath for three minutes at 95 degrees F., the temperature being gradually reduced to 80 degrees F., save in the cases of uremia, in which the patients were given a sponge bath after sweating profusely.

A number of dementia præcox patients in a dull, stupid and apathetic state, also a few patients with melancholia and neurasthenia, showed considerable improvement both physically and mentally after use of the spray and rain bath at 90 degrees F. for three minutes, followed by the Scotch douche, moderate to full force at 90 degrees F., gradually reduced to 75 degrees F. for two minutes, the douche being played rapidly up and down the entire length of the spinal column.

Patients with saturnism, with the associated paralysis, also the polyneuritis of alcohol, with and without Korsakoff's psychosis, showed marked improvement and recovery by the use of the hot-air treatment and immersion bath, the patient remaining in the tub thirty minutes and being urged to exercise while in the water.

Painful and inflammatory hemorrhoids were treated daily with the perineal douche; as a result the hemorrhoids shriveled up and ceased to be painful anl inflammatory. It is recognized that constipation is habitual in the insane. Favorable results were obtained by the use of the sitz bath and liver spray daily at a temperature of 100 or 105 F.

For the detergent effect from ten to twenty patients were sent from the ward daily to receive a rain and spray bath. Four thousand such baths have been given during the past year.

Clinical Notes

A COMBINED BRIDGE AND INTRANASAL SPLINT FOR THE CORRECTION OF DEPRESSED DEFORMITIES OF THE NOSE.*

WILLIAM WESLEY CARTER, A.M., M.D.
Assistant Surgeon Manhattan Eye, Ear and Throat Hospital.
NEW YORK CITY.

This apparatus was designed to fill a long felt want; namely, that of a splint that will exert pressure in such a manner that the nasal tissues, once placed in proper position, will be held so until union has occurred. It is recommended for recent fractures, both accidental and operative, for the prevention and cure of deformity, especially depressed deformity.

DESCRIPTION OF INSTRUMENT.

It consists of a bridge made of steel and as light as is compatible with strength (Fig. 1). The bridge is formed by two curved, fenestrated wings 2.5 cm. (1 in.) wide, and joined by a hinge. The distance that these wings can be separated is regulated by a thumbscrew. The edges of the wings diverge to correspond to the shape of the nose, they are padded with rubber, and near the margins are small holes that admit of additional gauze padding being stitched on. The second part of the apparatus consists of two small hard rubber splints, perforated by four small holes.

APPLICATION OF INSTRUMENT.

All the precautions necessary for an aseptic operation are observed and the patient is placed under the influence of a general anesthetic. Assuming that the nasal tissues have been thoroughly mobilized (in doing this I use the method advised by T. Passmore Berens, of New York), the application of the apparatus is as follows: Iron-dyed silk, No. 14, is passed through one of the perforations in the splint and knotted (the hole is selected according to the distribution of the lifting force desired), the other end is threaded into a large curved needle, this is passed from within the nose through the cartilaginous dorsum, just below the end of the nasal bone and near the septum. The splint is now drawn into the nose and adjusted to the roof. This process is repeated on the other side.

The bridge is then applied and the wings adjusted with the thumb-screw to give the proper support to the base of the nasal triangle (Figs. 2 and 3). The sutures are now run through the fenestræ of the bridge vertically above their exit from the nose and drawn tight enough to lift the dorsum into its proper position

* Read in the Section on Laryngology and Otology of the American Medical Association, at the Fifty-ninth Annual Session, held at Chicago, June, 1908.

and reduce the deformity (a slight over-correction is to be preferred), the sutures are then tied together over the bridge, using only sufficient tension to support the bridge. The apparatus is automatically held in position and there is no tendency to displacement; it should be worn for a week or ten days or longer, during which time the patient should remain in bed. In fractures of the nose, union occurs more quickly than in any other part of the body; in uncomplicated cases there is fixation in eight days and bony union in a fortnight.

Since practically all fractures of the nose are compound fractures, in my opinon the patient is subjected to no additional risks from infection by the introduction of a sterilized silk suture through the dorsum. This view is born out in the cases of the patients that I have operated on in Dr. Harmon Smith's clinic, and the results have been excellent.

Fig. 1.—Bridge and intranasal splint for correcting depressed deformities of the nose.

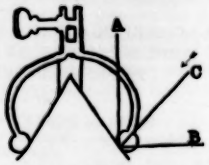

Fig. 4.—Illustrating the mechanics of the intranasal splint and bridge.

The mechanics of the instrument may be illustrated diagrammatically: The line (Fig. 4, A) vertical to the base of the nasal triangle represents the downward pressure of the bridge, produced by the tension of the sutures on the dorsum. The horizontal line (Fig. 4, B) represents the pressure exerted horizontally by the wings and controlled by the thumb-screw. The mean direction of pressure (Fig. 4, C), therefore, that is actually applied to the base of the nasal triangle bisects the angle formed by the vertical and horizontal lines, and gives the proper support at the base, while the lifting force is applied to the apex through the sutures attached to the intranasal splints. The combined action of these forces, therefore, would tend to construct a symmetrical nose.

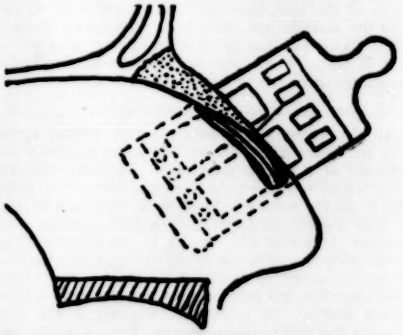

Fig. 2.—Sectional view of splint and bridge in place.

LENGTHENING THE SEPTUM.

When the nose is very broad and flat, as it was in my second case, it is necessary to lengthen the septum before the dorsum can be raised; this was done in the following manner: Through a button-hole slit I elevated the mucous membrane on the left side of the septum. With a sharp-pointed bistoury, beginning at the anterior edge of the vertical plate of the ethmoid (Fig. 5, B), I divide the cartilage and the mucous membrane of the other side at a high level and the mucous membrane of the left side at a much lower level (Fig. 5, A),

Fig. 3.—General view of the bridge after its application to the nose.

Fig. 5.—Lengthening the septum preparatory to raising the dorsum in broad and flat noses. A and B outline the area of mucous membrane and cartilage elevated to form a flap.

leaving a long flap of mucous membrane attached to the upper segment of the septum, which is intended to fall into the interval between the segments of the septum and prevent a perforation when the dorsum is raised.

The forepart of the septum is lengthened in the following manner: Downward from the center of the septum (Fig. 6), an inverted Y-shaped incision is made, separating the columnar cartilages, and continued under the floor of either nostril, making two flaps which are brought together in the median line and sutured with fine silk, thus doubling the length of the septum and raising the tip of the nose. The incisions in the floor are then extended under the alæ, liberating them so that they can be brought toward the median line

Fig. 6.—The inverted Y-shaped incision for lengthening the fore part of the septum.

Fig. 7.—The septum lengthened and the tip of the nose raised, making a shapely nasal orifice.

and sutured, thus narrowing the nostril and producing a shapely nasal orifice (Fig. 7). In such cases as this, as suggested by Berens, strips of bone chiseled from the nasal processes of the superior maxillæ are used in building up the arch.

The instrument was developed after thorough experimentation adhering strictly to mechanical principles, and seems to me to meet all the requirements for a reliable, self-retaining splint in the conditions indicated. It has the great advantage of restoring the function of the nose as well as its contour by a rearrangement of its parts without the introduction of foreign substances into its tissues. Its efficiency depends on the principle that the best way to correct a deformity is to reverse the direction of the forces that produce it.[1]

69 West Fiftieth Street.

ABSTRACT OF DISCUSSION.

DR. E. FLETCHER INGALS, Chicago: I have had no opportunity to use Dr. Carter's splints, but it seems to me the direction in which he applies the force, together with the internal splints, should hold the bones accurately in place.

DR. W. W. CARTER, New York: This instrument is a very powerful one and with it one can pull a flat nose up into a normal position with perfect ease, but the tissues must be thoroughly mobilized and their resistance overcome so that the tension on the sutures is only sufficient to hold the nose in position without undue pressure of the intranasal splints on the mucous membrane. Where there is a very flat nose it is necessary to narrow it, and if there is not a sufficient amount of tissue to produce a normal nasal arch it is necessary to chisel off a part of the nasal process of the superior maxillary bone and use it in building up the arch. The chief advantages in the instrument are that it helps to preserve the function of the nose as well as its contour, and that the patient is not seriously discommoded while wearing it.

SUCCESSFUL CANINE INFECTION WITH CULTURES OF LEISHMANIA INFANTUM (C. NICOLLE).*

F. G. NOVY, M.D.
ANN ARBOR, MICH.

PRELIMINARY NOTE.

In May, 1903, Major Leishman described peculiar chromatin bodies which he found in the spleen of a patient suffering from the so-called dum-dum fever of Calcutta, and at the time he suggested the possibility of these having a trypanosomal origin. This observation was soon confirmed by Donovan and others, and consequently the so-called Leishman-Donovan bodies have come to be recognized as the cause of Kala-azar or tropical splenomegaly.

In December of the same year J. H. Wright gave an accurate description of similar bodies found in the lesions of Delhi boil or Oriental sore, and like results were obtained about the same time by Marzinowsky. While, morphologically, the Wright bodies are identical with those of Leishman, there is good reason to believe that they represent distinct though related organisms.

A third infection of similar type was recognized by Pianese, in Naples, in 1905. In five out of twelve cases of infantile splenic anemia he found intracellular bodies which resembled those of Leishman. The recent study of this disease of infants by C. Nicolle, director of the Pasteur Institute of Tunis, are of commanding interest in view of the results achieved.

The organisms referred to may be placed, for the present at least, in the genus *Leishmania* created by Ross. They are known, therefore, as:

Leishmania donovani (Laveran and Mesnil) in Kala azar.

Leishmania tropica (Wright) in Oriental sore.

Leishmania infantum (C. Nicolle) in infantile splenic anemia.

From the beginning of the studies thus briefly referred to, much interest attached to the question of the nature and the systematic position of the Leishman-Donovan bodies. The hypothesis of a trypanosomal origin was strengthened by the discovery of Rogers, in 1904, that the Leishman bodies developed into flagellated organisms when the fluid obtained by splenic puncture was placed in a solution of sodium citrate. The actively motile forms thus obtained were strikingly suggestive of cultural forms of trypanosomes, more especially of the flagellates found in insects, and hence Rogers proposed to designate the organism as an *Herpetomonas*. The observations of Rogers were soon confirmed by others, and the important fact was thus established that the Leishman bodies, usually intracellular, possessed a free, flagellate or trypanosome-like stage. Unfortunately, attempts to grow the organism on blood agar failed and, as it was seemingly impossible to obtain more than one or two subcultures of the flagellated form, the further study of Kala-azar along these lines was blocked for the time being. In view of the results recently obtained by Nicolle with *L. infantum* and *L. tropica*, it is clear that the study of *L. donovani* must be taken up anew.

In the case of infantile splenic anemia Nicolle has shown (February, 1908) that this disease can be reproduced in the dog and monkey by inoculation with the infected tissue and that the human disease is probably of canine origin. Moreover, he was able to cultivate the parasite on blood agar, not only from the human disease but also from the experimental animals and from the naturally infected dogs. Attempts at reproducing the disease by inoculating dogs and monkeys with pure cultures of *L. infantum*, however, failed and he concluded that such cultures, unlike the virus, seemed to be deprived of pathogenic power.

Because of the important questions involved it was very desirable to prove the relation of the flagellated forms to the disease by inducing an infection characterized by the presence of typical Leishman bodies. Accordingly, having received, through the courtesy of Dr. Mesnil of the Pasteur Institute, March 23, cultures of Nicolle's flagellates (eighth generation), it was decided to repeat Nicolle's experiments on dogs. Since the failure in his tests was probably due to the use of small doses of the culture material, it seemed best to resort to repeated inoculations of large quantities of the flagellates.

In the interval from April 13 to September 21 a dog was given fifteen injections, intraperitoneally, of fresh vigorous cultures of the flagellates. The organism was grown on blood agar at 20 degrees C., and for each inoculation the growth from a large number of tubes (8 to 40) was taken up in citrate solution and then injected. All told 270 cultures were thus utilized. The dog apparently showed no effect other than an occasional leu-

1. Since writing the above, my attention has been called to a mask devised by Dr. O. B. Douglas. His apparatus differs from mine mechanically, and does not support the base of the nasal triangle, an important feature of my instrument.

*From the Hygienic Laboratory, University of Michigan. This investigation has been aided by a grant from the Rockefeller Institute for Medical Research.

cocytosis. It remained seemingly healthy and repeated microscopic examination of the peripheral blood gave negative results.

On October 9 the dog (weight 11.7 kilos) was killed by bleeding and an autopsy was at once made. Contrary to what might be expected, the spleen was small, tough and leathery and weighed but thirty-three grams. The liver and kidney were likewise unusually hard. Smear preparations made from the spleen, liver, kidneys, lungs, mesenteric glands and red marrow showed enormous numbers of typical Leishman-Donovan bodies. These were at times present in mononuclear leucocytes, from five to one hundred or more being present in a cell, but most of the parasites, however, appeared to be free. There was no evidence of the presence of flagellated forms. A comparison of the Leishman bodies found in this dog with those seen in original preparations kindly sent me by Dr. Nicolle showed them to be identical with those found in the human body. Blood agar tubes inoculated with material from the spleen, liver and bone marrow gave in five days enormously rich cultures of the typical flagellate form.

This experiment, therefore, establishes the susceptibility of the dog to infection with cultures of *L. infantum*. Starting out with the flagellate form, it has been possible to reproduce the characteristic Leishman-Donovan bodies, free as well as intracellular, and, moreover, the recovery of the typical flagellates by cultural means, from the organs of the infected dog, completes the evidence regarding its relation to the disease. It is interesting to note that the successful infection of dogs by means of pure cultures furthers the prosecution of the study of this disease in laboratories remote from regions where the disease prevails. It is probable that like results will be obtained in the case of Kala-azar and Oriental sore. Further studies on the infectivity of experimental animals are now under way.

ACUTE DILATATION OF THE STOMACH.

REPORT OF AN UNUSUAL CASE.

W. R. HOUSTON, A.M., M.D.
PITTSBURG, PA.

Patient.—Mrs. T., a moderately well-nourished woman, aged 47, was seen at 2 a. m., Aug. 16, 1908, at the City Hospital in Augusta, Ga. She had been brought in from a Sunday excursion train returning from Savannah, after an exhausting day's outing that involved ten hours on the train and seven hours on the seashore. She had been feeling well up to 9 p. m., when she was taken with abdominal pain after having eaten several bananas. On the train she had already had three-fourths of a grain of morphin, by mouth, and two drinks of whisky. There was a history of previous attacks which had been relieved by these medicines.

Examination.—I found the patient with a pulse of 110, full and regular, temperature normal, extremities cold, and complaining bitterly of pain in the abdomen. The pain was not localized but referred more to the upper quadrants, and was lessened by pressure. The patient showed a remarkable abdominal distention. The distention was at first more marked on the right side, but in course of time became everywhere the same. Palpation showed a highly developed drum-like hardness of the abdominal walls, and a uniform dull tympany was observed. The heart and liver were considerably displaced upward.

Treatment.—Though the history was that of an obstipation of some days' standing, repeated asafetida enemas gave no relief and the water returned clear and with little flatus. Four attempts were made to wash out the stomach. The tube, which unfortunately was of too small caliber (25 Fr.) was introduced apparently into the stomach, but the water came back almost immediately bringing only a little bloody mucus. This was thought to be due to the great pressure of gas in the intestines. Several attempts to administer water by mouth, four ounces at a time, resulted in the regurgitation of the clear water after ten or fifteen minutes. At 4 a. m. the patient's pulse began to grow rapidly quicker and weaker. The breathing became gradually shallower.

Consultation.—Dr. W. H. Doughty was called in as a consulting surgeon. An exploratory laparotomy was decided on, looking to the probable necessity for an enterostomy. Before anything could be done, however, the patient died at 7 a. m.

Postmortem Examination of Abdomen.—An autopsy was declined, but as the undertaker thought it necessary to let out the gases before giving up the body for transportation, an opportunity was offered for a casual examination of the abdominal contents. The abdominal distention was found to be due solely to the distention of the stomach. The stomach extended to within an inch of the symphysis, and pressed against the lateral walls of the abdomen on both sides from top to bottom. The antrum was pouched out under the liver on the right so that it extended four inches to the right of the first part of the duodenum. The intestines seemed normal and contained the usual amount of gas. They were quite hidden by the stomach. When the wall of the stomach was punctured there was a loud explosion of gas. The greater curvature retracted to a position an inch below the navel. The lateral distention was little affected. There seemed to be no gastroptosis, but the conditions suggested a chronic dilatation preceding the acute. The duodenum and pylorus showed no thickening nor infiltration. There was a half-pint of dark acid contents in the stomach.

As to the physics of the conditions here discovered, I refer to the experimental studies of Braun and Seidel.[1] The esophagus enters the cardia obliquely. The closure of the cardiac orifice is maintained chiefly through lateral pressure exerted by the musculature of the fundus. When the fundus is inflated the pressure is increased. In the case recited the closure had become so great as to block the passage of a rather too flexible stomach-tube and cause it, evidently, to double on itself. The antecedent chronic dilatation had prepared the way for a kinking of the first part of the doudenum, and, as the antrum was forced further to the right by the increasing distention, the pylorus became more and more tightly closed. The first impulse to the acute attack may have been given by an exaggeration of chronic motor insufficiency induced by the fatigues of the day.

But for the unfortunate misinterpretation of the symptoms, the patient might doubtless have been rescued. Death resulted apparently from shock.

Leonard Building.

MOTILITY OF THE SPERMATOZOA IN THE EPIDIDYMIS.

JOHN A. HAWKINS, M.D.
PITTSBURG, PA.

It has been taught that the spermatozoa do not acquire motility until after leaving the epididymes. This idea I have recently demonstrated to be erroneous. A young man had suffered from a double epididymitis years before the operation to be described. Recent repeated examinations of the semen had shown constant absence of spermatozoa, although the amount of semen and macroscopic appearance were normal. An anastomosis of the vas with the globus major of one side was suggested, and at the time of the operation I withdrew a few drops

1. Klin. experimentelle Untersuchungen zur Frage der acuten Magenerweiterung, Grenzgeb. d. Med. u. Chir., xvii, 533.

of fluid from the neighborhood of the proposed site of incision into the epididymis. This fluid I immediately put on a slide, covered it, and made the examination, the procedure occurring at room temperature. The spermatozoa were found active and, in fact, appeared in no wise different from spermatozoa obtained after ejaculation, and I believe that impregnation could be secured by their transference to the uterus of a healthy ovulating woman. The hypodermic puncture was made to select a suitable site for the attachment of the vas.

CARIES OF THE HYOID BONE.

JOHN EGERTON CANNADAY, M.D.
CHARLESTON, W. VA.

Most authorities state that the hyoid bone at times may be fractured by hanging or other forms of strangling. A case of primary acute periostitis, followed by abscess, incision and recovery, has been reported by Stetter. Ullman reports a case of caries of the hyoid with subsequent fistula in a man 40 years of age. The fistula remained after incision of a small abscess on the right side of the neck four years previously. In this case the necrotic portion of the bone was resected.

Fracture of this bone is peculiarly dangerous, and, in many instances, death has followed the complications. The ecchymosis may cause great difficulty in swallowing, talking or breathing. From its protected position the bone is seldom affected by external violence.

Inflammation of the bone may be the result of external violence or constitutional disease and usually begins as a periostitis with localized pain, swelling, dysphagia and dyspnea; suppuration and necrosis of the bone are apt to follow. These processes are usually limited, though the whole bone has been known to die and be cast off. After extrusion of the sequestrum the functions of the bone appear to be but little impaired.

Tumors of this bone are most unusual, and but five or six have been found in the literature, benignancy and malignancy seem to be about equal and death has followed removal in at least one case. Death occurred in another case from pressure before any operation could be undertaken. Secondary growths in the hyoid are of great rarity. The primary tumors reported are enchondroma, osteoma and sarcoma.

Syphilis of this bone usually shows itself in the form of painful periosteal nodes which may cause interference with swallowing. After surgical or accidental interference with this bone tracheotomy may be necessary to prevent asphyxia and the stomach tube may have to be used in feeding the patient, as there may be inability to swallow on account of the swelling.

Patient.—L. F., a healthy young woman of excellent habits, aged 28, somewhat corpulent, was referred to me by Dr. T. L. Barber, Charleston, W. Va.

Examination.—A sinus of the neck opened just above the thyroid cartilage and led inward and backward to the hyoid bone, which was distinctly carious. This sinus had resisted treatment since the patient was four years of age. No history of accidental injury could be elicited.

Operation.—A general anesthetic (chloroform) was administered and an elliptical incision was made around the skin orifice of the sinus; this cut was prolonged at the ends to gain room and the sinus was dissected down to the body of the hyoid without opening. The posterior periosteum of the body of the bone, together with its muscular attachments, was stripped away and the bone removed. A small portion of each cornu was left behind. Hemostasis was secured. A small rubber tube drain was carried down to the bottom of the wound and brought out through a stab opening below the line of incision. The subcutaneous structures were brought together by a buried suture of plain catgut and the edges of the skin incision were approximated by a subcuticular linen suture. The neck was encased in a so-called mummy dressing. Healing was by primary intention. Beyond a little soreness for a few days there has been not the slightest interference with any of the muscular functions dependent on the hyoid for attachment.

Pathologic Report.—This was made by Dr. G. B. Capito. Tuberculosis was suspected but no giant cells or other evidences of tuberculous infiltration were present. The bone was decidedly carious. The sinus walls only showed the characteristic appearances of chronic inflammation. The area of infiltration was small and practically limited to the immediate vicinity.

Therapeutics

ANGINA PECTORIS.

A great deal is written and a great many recommendations are made concerning the treatment of this acute and dangerous condition, but in the true disease there can be but little diversity of opinion as to the best means to allay the pain and relieve the heart.

The patient should be left in the position that he finds the most comfortable, or in which he can breathe the best. If he is in bed, a hot water bag held in the region of the heart, not having the weight on the heart, often gives some relief. The best immediate treatment is a whiff or two of a few drops of nitrite of amyl, or the patient may dissolve on the tongue a nitroglycerin tablet containing 1/100 of a grain. Either of these may be acting while the physician prepares a hypodermatic injection of morphin and nitroglycerin, omitting the latter if he has decided that enough vasodilator action has occurred from either the nitrite of amyl or the nitroglycerin on the tongue. Except in instances of profound depression, or when there are diseased kidneys or other contraindications to morphin, there is nothing in this condition that will give better results than its hypodermatic administration. The dose should be from 1/8 to 1/4 of a grain, depending on the size of the individual and the intensity of the paroxysms of pain. If 1/8 of a grain is given, it could, of course, be repeated in an hour. The nitroglycerin, if it seems best thus to administer it, may be added to the same hypodermic syringe in doses of 1/100 of a grain.

If the attacks of pain recur, a certain amount of vasodilatation should be continued with nitroglycerin by the mouth at three, four or five hour intervals, as seems best, but soon three or four times in twenty-four hours will be a sufficient amount. While the actual dilating effect of nitroglycerin is short, the good effects from its action certainly last a number of hours. If severe pains recur, it may be necessary to repeat the morphin.

As soon as the patient has sufficiently recovered from the acute attack, the bowels should be evacuated as deemed best, either by an enema, glycerin suppository, or, if the patient's condition is good, by a calomel or castor oil purgative. Effervescing or saline laxatives that require a large amount of water for solution should generally be avoided in acute angina pectoris.

During the next few days the nutrition should be taken in small amounts, at three or four hour intervals, not too hot and not too cold. Even liquids should be taken in small amounts, not in large bulk at a time.

The subsequent treatment of angina pectoris is that of its cause, and as there is generally an arteriosclerosis or cardiovascular-renal disease, the treatment of that

condition may be referred to in THE JOURNAL, Feb. 8, 1908, page 465.

BODY WEIGHT.

The importance of over or underweight in an otherwise healthy adult is perhaps not sufficiently recognized by the profession. While tables of the average weight to a given height give sufficient range for individuality, they also show distinctly when an individual is overweight and when he is underweight. Between the ages of 15 and 25 the physician should rarely be satisfied to allow a member of a family in which he is professionally interested to remain underweight without careful investigation into its cause. It has been repeatedly shown that from the age of 15 to the age of 30, the age of greatest tendency to the development of tuberculosis, is also the age at which there is the greatest danger from underweight. In other words, the insurance statistics show that an underweight individual between these ages has a shorter expectancy of life than those of normal average weight. If each physician would individualize every such patient that he sees in the families of his clientele he may ascertain some hygienic, occupation, or actual organic reason for such underweight, and if the cause is treated or prevented at a time when serious conditions are not present, not only will the patient's life be prolonged, but tuberculosis may be prevented. If a patient of underweight has lived to the age of 35, there seems to be less danger from his underweight causing a predisposition to disease. The age is then soon reached, after 40, of the danger from overweight, and from the age of 35 upward the expectancy of life diminishes the greater the amount of obesity.

The danger from overweight seems to be due to the progressively greater necessity for a sedentary life, or, if exercise is actually taken, to the increased strain on the heart when the body performs the necessary physical exertion of ordinary exercise. It is self-evident that a heart must work much harder to take a man up-stairs when he is from twenty-five to fifty pounds or more over the average weight than if he was normal weight. If even this simple exertion is repeated for several years, it may be well understood why his life expectancy is shortened. Also, when an obese patient is attacked with pneumonia or must undergo some abdominal operation, even if his heart is not actually fatty, he again has his expectancy of recovery from these conditions greatly diminished. It therefore again becomes the physician's duty to arrange a diet or life for the individual when he is beginning to put on this surplus weight rather than to wait until the patient is driven to the physician by actual disability from such weight. Hence, in the treatment of underweight and overweight the physician should exercise the highest aim of the profession, viz., prevention of future disability.

Dr. Brandreth Symonds, in the *Medical Record*, Sept. 5, 1908, presents an interesting discussion of the expectancy of life of underweight and overweight adults and of the mortality figures of underweight and overweight individuals who have been accepted for insurance. According to the record of the Mutual Life Insurance Company, of New York, no overweight policyholder, either man or woman, died of old age or senility, while a few underweight individuals did die senile. The statistics of this company also show that the mortality (those deaths which occur below the expectancy of life) is greater in those above average weight than in those below average weight. Symonds also shows that up to the age of 25 some overweight is rather an asset to the individual, and underweight is a handicap, while over 30 years of age the reverse becomes true, overweight is a handicap and underweight becomes progressively with age an asset. The article was fully abstracted in THE JOURNAL, Sept. 19, 1908, page 1032.

SCARLET FEVER.

The advantages of hot, or at least warm, water bathing in scarlet fever is well set forth by Dr. H. W. Rover, of Denver, in *Colorado Medicine*, July, 1908. He premises the discussion of the hot water treatment of this disease by the statement that "what the cold bath is to typhoid fever, the hot bath is to scarlet fever." The advantages of hot baths in this disease are that they hasten the completion of the eruption; quiet restlessness and prevent cerebral excitation; dilate the peripheral blood vessels and increase heat radiation and diaphoresis, which is often absent in this disease; tend to prevent itching; relieve the congestion of the kidneys due to dry skin; make desquamation more rapid; and tend to remove, daily, the dry epidermis that, if not prevented by oily applications, will fly about and supposedly spread the contagion.

With a warm room and a bathroom handy there is no question that hot or warm water bathing in scarlet fever is an advance in the treatment of that disease. If a hot bath is not available, hot water sponging should be done daily. If, during the desquamative stage, much itching or irritation is present, or the skin is dry, rubbing in clean olive oil or some clean, diluted wool fat preparation is advisable.

While the patient may be sponged finally before he leaves the sickroom with some mild antiseptic solution, there should be no daily application of germicide, lest absorption and poisoning take place.

While there is some doubt whether the epidermal scales of scarlatina are the cause of the spread of the disease, until there is proof that such is not a means of propagation the patient should be isolated until scaling is complete, and, as Rover has emphasized, hot baths and inunctions of oil will hasten the completion of the desquamation.

TUBERCULOUS PERITONITIS.

Dr. Arthur K. Stone, Boston, in the *Boston Medical and Surgical Journal*, May 7, 1908, gives his results after careful study of this disease. He finds that males and females suffer about equally from it; that the onset of the disease is often sudden, both with and without ascitic fluid being present; that the fluid may be quickly absorbed and improvement take place rapidly either with or without an operation; that tuberculous peritonitis may be latent and unsuspected and the condition may remain unchanged for months after active symptoms have subsided and the patient is in apparent health; that operations should only be undertaken when there is some distinct indication; that unless there is distress from distention, due to ascitic fluid, it is better to wait before operating and give the patient the advantages of rest and of the same hygiene as is carried out in pulmonary tuberculosis; that operation is indicated if after six or eight weeks of such fresh air and rest no improvement has taken place; that when improvement has occurred, whether from operation or from the rest and fresh air, patients must be taught to regulate their lives with the same hygienic care as is advised after arrested pulmonary tuberculosis.

YEAST.

The value of brewers' yeast in infections is too little known, and, if its value is known, it is too infrequently resorted to. In bowel infections of all kinds, in liver insufficiency, in cholecystitis, in duodenitis, and especially when constipation is present, it is valuable. The bowels move more readily with it and with less disturbance than from almost any other laxative or cathartic. A heavily coated tongue quickly becomes cleaner and often perfectly clean, tympanites is diminished, and the temperature is often lowered with this improvement of the gastrointestinal condition. In localized inflammatory processes, such as frequently occur in the pelvis, it is often a factor in preventing the formation of pus and consequent abscess. It increases leucocytosis, and perhaps raises the opsonic index in fighting an infection. As a cleanser of ulcers and local suppurations it is very valuable, and it is used with great success in vaginal inflammations, specific and otherwise, and in cervical endometritis.

For internal treatment, the upper layer of brewers' yeast should be obtained, and if placed in the ice box will keep for several days. The dose is from a teaspoonful to a tablespoonful, three or four times in twenty-four hours, administered in a glass of water. Few patients object to it, as it makes a not unpleasant sour drink. If a patient does not object to it, and it does not cause gastric disturbance, which it rarely does, the frequency and size of the dose is regulated by the effect on the bowels, the more the action on the bowels, the smaller the dose.

As a vaginal injection it may be used diluted with three or four parts of warm water.

Simple fresh brewers' yeast is more valuable as a nuclein treatment than any other nuclein offered or prepared.

IMPETIGO CONTAGIOSA.

Dr. R. T. Sutton, Kansas City, Mo., in the *New York Medical Journal*, Aug. 1, 1908, briefly discusses the diagnosis and treatment of this troublesome skin disease. While ammoniated mercury is recommended as one of the most effective treatments of this trouble, Sutton thinks the mistake is made of using too strong preparations. The official ointment, unguentum hydrargyri ammoniati, contains 10 parts of white precipitate in 90 parts of benzoinated lard, and this he thinks is too strong for most effective use. He finds an oily preparation better than a fatty preparation, viz.:

B.	gm. or c.c.	
Hydrargyri ammoniati	1	fʒiii
Olei olivæ	100	or gr. xiv

M. et Sig.: Shake well and apply freely several times a day.

If deemed advisable, compresses may be soaked in this solution and kept in place over the affected areas by means of bandages or adhesive plaster. In the hairy parts of the body, as in the beard, a continuous application for twenty-four hours of the above solution will loosen all crusts and allow the antiseptic to reach the germs of infection and will inhibit the spreading of the disease. Sutton finds such treatment renders a cure possible in a week, whereby with other treatments from two to four weeks are needed.

While treating the disease locally he would also improve the patient's general condition, if that was below par, as it is doubtless true that anything that reduces the patient's ability to fight this infection will make the cure of the local disease more difficult.

New and Nonofficial Remedies

THE FOLLOWING ARTICLES HAVE BEEN TENTATIVELY ACCEPTED BY THE COUNCIL ON PHARMACY AND CHEMISTRY OF THE AMERICAN MEDICAL ASSOCIATION FOR INCLUSION IN THE PROPOSED ANNUAL, "NEW AND NONOFFICIAL REMEDIES." THEIR ACCEPTANCE HAS BEEN BASED LARGELY ON EVIDENCE SUPPLIED BY THE MANUFACTURER OR HIS AGENT, BUT TO SOME EXTENT ON INVESTIGATION MADE BY OR UNDER THE DIRECTION OF THE COUNCIL. CRITICISMS AND CORRECTIONS ARE ASKED FOR TO AID IN THE REVISION OF THE MATTER BEFORE FINAL ACCEPTANCE AND PUBLICATION IN BOOK FORM.

THE COUNCIL DESIRES PHYSICIANS TO UNDERSTAND THAT THE ACCEPTANCE OF AN ARTICLE DOES NOT NECESSARILY MEAN A RECOMMENDATION, BUT THAT SO FAR AS KNOWN IT COMPLIES WITH THE RULES ADOPTED BY THE COUNCIL.

W. A. PUCKNER, SECRETARY.

(A list of all accepted articles is published on an advertising page of THE JOURNAL *in the first issue of each month.)*

(Continued from Vol. LI, page 1337.)

HEMABOLOIDS.—Hemaboloids is a liquid said to contain in each 100 Cc. iron, combined with proteins, equivalant to 0.40 Gm. elementary iron, proteins and nucleiproteins (nitrogen x 6.25) 4.0 Gm., bone marrow extract 5.0 Gm., nuclein 0.04 Gm., in a menstruum containing 17 per cent. alcohol by volume. It is claimed that 75 per cent. of the iron is in a stable organic combination with vegetable nucleoproteins and does not react with hematoxylin (see Organic Iron), while the remaining 25 per cent. is more loosely combined.

Actions and Uses.—Hemaboloids is said to act as a promptly absorbable and non-irritant form of food-iron. It is said not to constipate nor stain the teeth.

Dosage.—15 Cc. (½ fluidounce) after each meal. Children in proportion. Each average dose of 15 Cc. (½ fluidounce) contains iron 0.06 Gm (0.92 grains), proteins and nucleoproteins 0.62 m. (9.6 grains), bone marrow extract 0.775 Gm. (12 grains), nuclein 0.006 Gm. (0.1 grain).

Manufactured by the Palisade Manufacturing Company, Yonkers, N. Y. U. S. trademark, Aug. 3, 1897.

IODALBIN.—Iodalbin is a compound of iodine and blood albumin, containing approximately 21.5 per cent. of iodine.

It is prepared by treating blood albumin with a solution of iodin whereby an insoluble precipitate is produced. This precipitate is separated, purified by the removal of free iodin, dried, powdered and assayed.

Iodalbin is a reddish colored powder, practically tasteless and possessing a peculiar, rather pleasant odor, suggestive of cane syrup or molasses. It is almost insoluble in water, acids, alcohol and other ordinary solvents, but is readily soluble in strong alkaline solutions; more slowly soluble in dilute alkaline solutions. On heating it evolves iodine vapors copiously and is subsequently consumed to an ash, leaving a small amount of residue.

Tests. The presence and amount of iodine can be determined by the usual processes for detecting and estimating this element in organic substances.

Actions and Uses.—When administered to animals Iodalbin appears to suffer little change in the acid contents of the stomach, but on passing into the intestines it is dissolved by contact with the alkaline secretion and on absorption exerts a physiologic action similar to that of the soluble iodides. It is indicated in the same cases as the soluble iodides.

Dosage.—0.3 to 0.6 Gm. (5 to 10 grains) repeated according to indications, or until the desired effects is obtained. Iodalbin is supplied in powder and in 0.3 Gm. (5 grain) capsules.

Manufactured by Parke, Davis & Co., Detroit, Mich. Not patented or trademarked.

LECIBRIN.—Lecibrin is lecithin from the brain in combination with nucleoproteins, containing 33⅓ per cent. by weight of lecithin.

Lecibrin is put up in gelatin coated "pepules" each containing 0.2 Gm. (3 grains), the equivalent of 0.0027 Gm. (1/25 grain) of elementary phosphorus.

Actions and Uses.—See Lecithin. Said to be better borne than lecithin in some cases.

Dosage.—One to three pepules.

Manufactured by Fairchild Bros. & Foster, New York. U. S. trademark No. 50, 967.

(To be continued.)

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[For other information see second page following reading matter]

SATURDAY, OCTOBER 24, 1908.

NON-ACID-FAST TUBERCLE BACILLI.

In a previous number of THE JOURNAL[1] attention was directed to the existence of forms of tubercle bacilli which are decolorized by acids after staining with carbolfuchsin. They were discovered some years ago by Much, who in a recent paper[2] calls attention to some further interesting facts in this connection. According to this observer, it is not rare to find numerous tuberculous nodules in the lungs of cattle in which microscopic examination fails to reveal the presence of acid-fast bacilli, but on inoculation into guinea-pigs of a small piece of this lung tissue the animal dies of typical tuberculosis. Furthermore, from the lesions in the guinea-pig characteristic cultures of tubercle bacilli may be obtained.

These facts are essentially true also of lesions in human beings. In cold abscesses, for example, it is often impossible by the most careful search to find tubercle bacilli by staining the contents with the Ziehl stain, whereas characteristic cultures are obtained by the inoculation method. By means of Gram's stain the bacilli which are not acid-fast in the tissues may be studied, and Much distinguishes two forms, one a rod-like and the other a granular form; there are also intermediary forms between these. In order to bring out these bacilli in tissues, Gram's stain is used and the best results are obtained if the anilin oil gentian violet is allowed to act for from twenty-four to forty-eight hours. For example, in the tuberculous tissues from a calf inoculated with virulent typical bacilli no evidence of tubercle bacilli appeared when stained by the ordinary Ziehl method. After staining with Gram for forty-eight hours, however, an interesting picture presents itself. Filling the tubercles are fine bacilli, many of which are inside the cells and others are arranged in masses or singly. These bacilli, moreover, when isolated again by the culture method are acid-fast.

The practical application of this work is evident. Too much reliance should not be placed on the Ziehl stain and much more should be made of Gram's stain, especially in the staining of tissues for tubercle bacilli. Apparently the bacilli as they occur in the tissues possess more or less characteristic arrangement and are not apt to be mistaken for other bacteria. In sputum, however, where so often there are many other bacteria, both Gram-positive and Gram-negative, the presence of the non-acid-fast tubercle bacillus will be much more difficult to detect, and consequently the use of this method in sputum examination necessarily will be limited. Much more work is needed to determine how prevalent the non-acid-fast bacilli are in sputum, exudates and various tuberculous lesions.

Much was able experimentally to change either form into the other and in either condition the virulence is the same. It is an interesting fact that on the whole the more virulent the strains of tubercle bacillus the more easily it is decolorized by the acid. Inasmuch as the acid-fast property depends on the presence of certain fatty acids in the bacillus, it appears that the greater the virulence the less fatty acid the bacilli contain. It is possible that the virulence bears some relation to the amount of this acid-fast substance in the capsule.

1. March 7, 1908, p. 772.
2. Berlin. klin. Wchnschr., April 6, 1908, p. 691.

RABIES IN GREAT BRITAIN AND IN AMERICA.

Travelers returning to this country from abroad are prone to talk of the stringent quarantine regulations enforced in Great Britain with regard to dogs. Under no circumstances are dogs admitted to that country until they have been kept under observation for at least six weeks. No excuse will serve, no influence will help, to evade the law, and it matters not whether the dog be a tiny spaniel or a huge St. Bernard or Dane, he can not be taken into England otherwise. The internal regulations with regard to dogs are just as strict. The consequence is that Great Britain, after suffering for many years from outbreaks of rabies, has no longer any cases of the disease.

In his recent Wesley Carpenter lecture at the New York Academy of Medicine, Prof. G. Sims Woodhead said that wishing to obtain for teaching and demonstration purposes specimens of an animal that had died from rabies, he communicated with the health authorities all over the United Kingdom, but found that the entire absence of the disease had rendered such specimens unobtainable. He had to send to America for them and, as we can well imagine, found no difficulty in obtaining them here. He then related the method by which this consummation, so eminently to be desired, had been attained. For six months every dog in Great Britain without exception was required to wear a muzzle. Humanitarians, falsely so called, objected strenuously to this procedure, and there were letters to the *Times* and public denunciations of all kinds of this "cruelty to animals." But they had no effect whatever on the administration of the law. At the same time a strict quarantine with regard to the importation of dogs into England was enacted, and, what is more, was enforced. Since that time, it is said, there has been no rabies in Great Britain, and it looks as though there can never be

any again, so long at least as the authorities continue to enforce the exclusion law.

Here in America we earnestly desire to be rid of rabies. But between those who insist that there is no such disease, and those who hamper all attempts at legislation for the enforcement of laws already in existence that might eradicate it, lest cruelty should thus be inflicted on the poor dog, case after case of the disease is reported.

They have no need in Great Britain for a Pasteur institute and have none, while here we are under the necessity of constantly increasing their number. Effective legislation in this matter, as, indeed, in practically everything relating to public health and preventive medicine, is unfortunately hampered in this country by governmental conditions under which each state makes its own local regulations. In Great Britain a single act of parliament secures uniformity of action, and a single board of officers is responsible for its effective exercise throughout the country. It is situations like this that emphasize the need of a national department of public health.

Lest it should seem that the problem presented by rabies is not of sufficient importance to justify an appeal to national measures, it may be recalled that, while this is not generally realized, rabies in its pathogenicity constitutes a curious exception to most of the infectious diseases. Ordinarily we think of animal diseases as readily communicable to man. As a matter of fact (leaving tuberculosis out of the question), rabies is practically the only infectious disease of animals that can be communicated to more than three species. Altogether there are only three other diseases, anthrax, actinomycosis, and tetanus, that are communicable to two species. Tetanus is apparently being brought under control by degrees; anthrax and actinomycosis have almost ceased to be sources of anxiety. It is worth while now to devote ourselves to the problem of the control of rabies. The example of conditions, past and present, with regard to that disease in Great Britain and the results derived from certain simple measures make clear just how rabies can be eradicated, and, further, they demonstrate that, far from being a difficult problem, as it is sometimes considered to be, the control of the disease is comparatively easy when the proper precautions are enacted into law and are adequately enforced.

FEDERAL AID FOR THE PHARMACOPEIA.

Although the United States Pharmacopeia is almost unknown outside of the medical and pharmaceutical professions, in reality it occupies a place in our civilization not unlike the common law: its influence extends to every man, woman and child in the United States who uses medicine. For not only is it the legal standard to which the drugs of the physicians' prescriptions must conform, but it is the standard by which practically all important drugs are bought and sold. Severe penalties are provided for any person who applies a pharmacopeial name to an article which does not conform to the tests laid down in this work.

The standing of the medical profession is also much more closely connected with the Pharmacopeia than many of its members realize. For were all drugs that are really useful in the treatment of disease included in the U. S. Pharmacopeia or National Formulary the "proprietary-medicine evil"—which has done so much to debauch medical journalism — would be an almost negligible quantity.

So important for the welfare of the people are the pharmacopeias regarded by most countries that these expend large sums in revising and perfecting them. In the United States, however, all this work has been left to private initiative, although the federal and many state governments long ago adopted the work as an official guide for certain purposes. With the passage of the Food and Drugs Act the federal government made the Pharmacopeia the legal standard in all matters relating to the drugs described therein, and the question has frequently been asked if the national government itself should not undertake the preparation of the Pharmacopeia. This suggestion has not been received with favor, and, indeed, such a step would seem most unwise in a representative government like ours. It is, however, the clear duty of the United States Government to contribute something to the vast amount of labor and expense involved in the preparation of a standard which has become an indispensable part of its machinery for securing pure drugs for its citizens. Hence it is with much pleasure that we learn that the Public Health and Marine-Hospital Service has taken steps to cooperate with the board of trustees of the United States Pharmacopeia.

For the present, as we understand it, this cooperation will consist in the preparation and publication of a series of digests of comments on the eighth revision of the Pharmacopeia. It has been customary in the past for the Committee of Revision of the Pharmacopeia to collect and publish such comments, and these "Digests of Criticisms" proved very useful to all who had occasion to use the Pharmacopeia and were of material assistance to the Committee of Revision. So far no such digest of the comments on the eighth revision has been published, although this edition has been the subject of more active discussion than any previous one; this interest has resulted partly from the fact that under the Food and Drugs Act the Pharmacopeia assumed a much greater importance as a legal standard than formerly, and partly from the recent tendency of physicians to turn from the host of proprietary medicines to the official preparations.

It is especially appropriate that work of this character should be undertaken by the Public Health and

Marine-Hospital Service, which has already a large corps of physicians and pharmacists and a splendid, though small, hygienic laboratory. It is to be hoped that those in charge of the work, not being concerned with the police regulations concerning the adulteration of drugs, will treat the subject from a broad and strictly scientific and impartial point of view.

We trust that the Surgeon-General of the Public Health and Marine-Hospital Service will not rest content with this first step toward assisting the United States Pharmacopeia, but will also make provision for extensive laboratory work. There is an almost unlimited field for work of the highest scientific as well as of practical value in this direction—work not provided for in any other branch of the government and which can be carried on without in any way encroaching on the functions of the Committee of Revision of the Pharmacopeia. It is also hoped that the same service will find a way of cooperating with the American Pharmaceutical Association in the revision of the National Formulary (as was requested by the Association at its recent meeting at Hot Springs), for this, too, is recognized as a legal standard by the Federal Government.

Work along these lines can be greatly extended without interfering in the least with the plans now being so actively discussed for uniting the various federal bureaus having to do with health matters into a more efficient health organization. In fact, the stronger the individual units which are to go into such a larger organization, the stronger will the latter be. Hence this step, as well as all other measures which tend to strengthen any of the public health agencies already existing, will secure the cordial support of all who are interested in the development of public health work by the National Government.

SYPHILIS IN UGANDA.

One of the dangers to which the savage recipients of the benefits of civilization are subject is that of being left unprotected against themselves and the evils of civilization. The introduction of civilization among an aboriginal race is usually an iconoclastic procedure. In the nature of things, the old native gods and customs are broken before the "reclaimed" savage is able to comprehend the newer order. It is impossible to take a race, not even one generation removed from savagery, and by introducing Christianity and civilization put that race on a parity with those whose struggle toward their present state has consumed centuries of time and immeasurable effort. Yet, unfortunately, that is what is attempted too often by the nation which would shoulder the "white man's burden." Such attempts not only fail to redound to the credit of those who have attempted to civilize by hot-house methods, but they spell ruin and misery to the unfortunate recipients.

A good case in point has recently been brought to notice in a paper by Col. F. J. Lambkin on "Syphilis in the Uganda Protectorate" referred to elsewhere in this issue.[1] In this case the "emancipation" of the native women from their tribal customs and religion has brought about an astounding laxity of morals. Sexual intercourse, under the "civilized" régime, has become promiscuous, and syphilis, probably introduced by the white traders, has spread to an alarming extent. Under the severe penalties for sexual offenses which the native customs prescribed, venereal diseases were comparatively rare. These customs once abolished, the women, who are little better than healthy animals with strong sexual passions, were free from their restraining influence. The result is that the very existence of the race is threatened. The terrifying malignancy which syphilis has exhibited among these people is due probably to two causes: One, suggested by Colonel Lambkin, is the virgin soil into which the infection is introduced; the other is the well-known fact that in the tropics syphilis takes on a virulence almost unknown in the temperate zones.

It is a curious anomaly that while civilization has done much toward solving the problem of saving the native of Uganda from sleeping sickness, it has been, if not the proximate, at least the remote cause of a scourge whose ravages are far worse. The moral of the story is a little mixed.

PELLAGRA.

The epidemic prevalence of pellagra in the southern states brings before the physicians of the United States, and notably those of the south, a number of problems the solution of which will well repay investigation. Despite the extensive use of maize in this country, pellagra has been so rare that till recently it has received little notice from American physicians.[2] It has long been prevalent in European countries, especially in Roumania and Italy, and the literature on the subject is large, the list of titles referring to this disease in the Index-Catalogue of the Surgeon-General's Library occupying eight or nine pages. In a monograph by C. H. Lavinder, of the U. S. Public Health and Marine-Hospital Service, something may be learned of the importance of pellagra in Europe. In Roumania 50,000 individuals are afflicted with this disease, and in Italy about 100,000. Lavinder discusses the peculiarities observed in the American cases. The appearance of the disease in epidemic form indicates that some marked change must have occurred in a part of the maize crop, for such epidemics have not been noticed in former years. The relatively acute form and the high mortality distinguish the American from the European cases. This has led to some doubt as to the diagnosis, but we must expect variations in the symptomatology of such a disease. If present views of the cause are correct the poison must vary in quantity and possibly in virulence according to the number and kind of fungi which produce the poison-

1. London Letter, this issue.
2. The Journal, Feb. 8, 1908, p. 459; Bellamy (R. H.), Ibid, Aug. 1, 1908, p. 397.

ous products. The causes of this variation in virulence merit careful investigation. In general, the cause of pellagra is recognized to be the use of maize of poor quality. The particular change that brings about the deterioration in quality is supposed to be the result of the growth of certain fungi constituting the smut of corn. These fungi probably vary in different seasons and localities. This difference may account for the sudden appearance of the cases in the United States and for the greater acuteness and virulence. Another important point to be decided is whether the poison is formed during the growth of the corn or develops after the grain is stored or even after it is in the intestinal canal. The extensive use of maize in the northern states suggests the possibility of obscure forms of disease arising from a milder form of intoxication from such low-grade grain. Careful inspection of maize intended for human food would appear to be a proper prophylactic measure.

LESSENED MORBIDITY DUE TO PURIFICATION OF WATER SUPPLIES.

In 1904 Allen Hazen, an eminent American sanitary engineer, in an address entitled "The Purification of Water in America," before the International Engineering Congress at St. Louis, formulated a theorem to the effect that for every death from typhoid avoided by the purification of public water supplies two or three deaths from other causes are also avoided at the same time. The same conclusion had been reached previously by Hiram F. Mills, the engineer member of the Massachusetts State Board of Health, and by Dr. Reinecke, the health officer of Hamburg, Germany, who observed that in several cities the purification of public water supply immediately was followed by a far greater decline in the death rate than could be explained by the decrease in deaths from typhoid alone. This startling deduction at first failed to receive the consideration one would think that it deserved, and it is therefore a source of gratification to note that so able a sanitarian as W. T. Sedgwick, of Boston, and his associate, Scott MacNutt, on critical reinvestigation of the evidence on which Hazen's surprising theorem rests, reach the conclusion that the theorem is not only correct but even conservative. Sedgwick and MacNutt made a careful statistical study of the total death rates of Lowell and Lawrence, Mass., and of the influence on them of the purification of polluted water supplies. On careful comparison of these death rates and those of certain other cities, including Hamburg, Germany, they find that the decline in total mortality is explainable to a much greater extent by a decline in deaths from other causes than by the fall in deaths from typhoid alone. Among the "other causes" of the diminished death rates pulmonary tuberculosis, pneumonia and infant mortality appear to be prominent. To what is this unexpected result of purified water supply due? In their preliminary communication[1] Sedgwick and MacNutt simply suggest that either the germs of other diseases than typhoid are more often water-borne than is supposed, or that polluted water depresses vital resistance so that microbes otherwise perhaps successfully resisted gain fatal hold. Possibly both factors are at work. The result of further studies of this problem will be awaited with much interest, but for the present it seems safe to conclude that the removal of pollution of public water supplies has much greater sanitary and consequently also economic consequences than hitherto has been believed possible.

1. Science, Aug. 14, 1908, p. 710.

MINE ACCIDENTS.

The recent statistics published by the U. S. Geological Survey make it clear that the most prolific source of disaster in mines is a clearly preventable one. The general idea is that gas, dust and powder explosions constitute the principal factor in mine disasters, and that such factors are either, in some cases, unforeseeable, or, if due to negligence, it is the neglect of some individual workman. It is impossible for man ever to protect himself absolutely against the culpable negligence of everyone. But the statistics referred to show that 1,122 deaths and 2,141 injuries were due to a preventable cause the responsibility for which must be assigned mainly to the owners, viz., the caving in of mine roofs and coal. These accidents are on a par with those due to unprotected machinery. They are a consequence of the selfish disregard for human life when it comes to the question of a little extra expenditure. It is to be hoped that the investigation of mine accidents by Congress, which has appropriated $150,000 for the purpose, will make it abundantly clear that a disregard for the lives of their employés by the employers in their chase for dollars will be held more than culpable. It must be made criminal.

THE COOPERATION OF THE CHURCH WITH MEDICINE.

There is one aspect, at least, of the relations between the church and medicine which can be endorsed by ministers of the gospel of all denominations and by physicians of any or of no religious belief, each in his respective professional capacity, and that is the plan of reaching through the pulpit, on matters of prevention in time of epidemic, many who can not otherwise be reached. This course has been adopted at West Pullman, Chicago, at the suggestion of the health commissioner of Chicago, in consequence of a typhoid epidemic prevailing there. All the ministers were asked to utilize their pulpits for the purpose of making widely known the elementary principles by the application of which the spread of the epidemic can be checked, such as boiling milk and other food to destroy germs, promptly disinfecting discharges, screening food from flies, etc. These are matters that are beyond controversy or diversity of opinion, and are, moreover, of universal application, and in that way entirely dissociated from the personal and individual factor that forms so large an element in the treatment of the sick.

Sensitiveness in Hernia.—Extreme sensitiveness during manipulation of a hernia, either in the tumor or in the surrounding tissues, should always cause the surgeon to suspect that there is some condition present other than the hernia. —DeGarmo, in the *Post-Graduate*, August, 1908.

Medical News

DISTRICT OF COLUMBIA.

Germans Entertain German Delegates.—The German delegates to the International Congress on Tuberculosis were tendered a reception at the new Willard Hotel October 2 by German physicians and residents of Washington.

Health Report.—According to the health and mortality record for the week ended October 10, there were 105 deaths, an increase of 22 over the preceding week. At the close of the week there were 199 cases of typhoid fever and 20 cases of diphtheria under treatment.

Typhoid Fever in Georgetown.—As a result of investigation by the health department it has been determined that the present epidemic of typhoid fever in Georgetown is due to the milk furnished by a "typhoid carrier" owning a dairy farm near Cabin John Bridge, Md. Thirty-two cases developed within eight days, of which 28 had consumed milk supplied by the dairy in question.

School Sanitation.—At a recent meeting of the board of education action was taken toward obtaining better sanitary conditions in the school buildings. The drinking cups are to be replaced by bubble drinking fountains and systems of vacuum cleaning will be installed in all new buildings. School authorities will refuse to accept new buildings until approved by the health officer and the chief of police.

Personal.—Mr. Sidney I. Kornhouser has been appointed instructor in biology and Dr. Irving K. Phelps instructor in physiology at George Washington University.——Dr. Henry F. Sawtelle has been appointed chief inspector of health and deputy health officer of the district.——Dr. Carnillo Caleja, physician to the King of Spain, who was present in Washington as a delegate to the International Congress on Tuberculosis, fell from a street car September 23 and was seriously injured.

FLORIDA.

Personal.—Dr. Clarence E. Hutchinson, Pensacola, has returned after more than a year abroad.——In the cases of Drs. Hiram J. Hampton, J. R. Avellenal and Eugene V. West, charged with violating the section of the city code of Tampa, which requires report of all infectious diseases to the city health officer, suspension of the sentence was ordered, as the ordinance has not been thoroughly understood.

Sanitary Education of the Public.—The State Board of Health has issued a striking poster, containing information on the part flies play in the conveyance of disease. The border of the poster portrays on one side a consumptive's spittoon, a garbage can, an outhouse, refuse, etc., and on the other a baby's milk bottle, a pitcher of cream, a dining table with the family sitting around it, and finally a typhoid patient, while swarming over the border and passing from left to right are hundreds of flies, presumably carrying the filth. The poster is more to be commended for its startling than for its esthetic qualities. It is intended to attract the attention of the public to the importance of fly destruction and prevention, and there is no doubt that it will be effective in this regard.

ILLINOIS.

Prosecution of Magnetic Healer.—Several months ago one E. B. Trenner, a self-styled "magnetic healer," started practice at Pontiac, without holding a license. The State Board of Health sent him a warning notice, but Trenner took the ground that his method of treatment did not come within the purview of the statute. Prosecution by the state's attorney of Livingston County was successful on twenty-five counts alleging that Trenner had practiced medicine and surgery within Livingston County without having been licensed by the State Board of Health. Damages were assessed at $100 on each count. On August 10, the appellate court, second district, affirmed the judgment of the lower court. Among other things, the court said:

> The error that is relied on and most strenuously argued is that the evidence does not support the verdict. The proof clearly showed that he had treated parties for nervous prostration, diseases of the throat, kidney trouble, headache, and many other physical ailments; that the defendant rubbed and manipulated from twenty to thirty minutes or longer. The defendant in no way denied the proof of manipulation that was made on behalf of plaintiff. The case of the People vs. Gordon, 195 Ill., 569, lays down the rule that one who advertises himself as a "magnetic healer" and who gives treatments by rubbing or kneading the body for the purpose of freeing the nerve force, in the nature of "osteopathic" treatment, is not within the exception in favor of those treating the sick by mental or spiritual means, even though he accompanied his treatment by mental suggestion, but is practicing medicine within the meaning of the statute and liable to the penalty.

Chicago.

Personal.—Dr. Arthur H. Geiger sailed for Europe October 8. ——Drs. John P. Pfeiffer and Shipley Wayland are ill with septicemia due to operation wounds.

Contagious Diseases.—During the week ended October 17, 414 cases of contagious diseases were reported to the department, distributed as follows: Diphtheria, 132; typhoid fever, 104; scarlet fever, 102; tuberculosis, 31; pneumonia, 24; measles, 9; chickenpox, 6; whooping cough, 2; smallpox, 10; and other communicable diseases, 3. There was a marked increase in cases of diphtheria, undoubtedly due to undiscovered mild cases in which no doctor had been in attendance, and to too early release from quarantine. A case of smallpox, the first in the city since June, was that of a Pullman car porter, who was taken ill in Oakland, Cal., but was allowed to continue his journey.

Deaths of the Week.—The health department reports that during the week ended October 17, 550 deaths occurred, equivalent to an annual death rate per 1,000 of 13.25. Among the principal death causes were acute intestinal diseases, 77; consumption, 70; violence (including suicide), 49; pneumonia, 48; nephritis, 45; heart diseases, 43; diphtheria, 18; typhoid fever, 10; whooping cough, 3; scarlet fever and influenza, each, 2; and measles, 1. There were 47 more deaths reported for the week than for the previous week, and 42 more than for the corresponding week of 1907. The chief increases in deaths, as compared with the preceding week, were from consumption, 17; pneumonia, 14; diphtheria and typhoid fever, each, 7; and violence (including suicide), 9.

Typhoid Fever Epidemic.—Typhoid fever is reported to be epidemic in West Pullman. Investigation has shown that the local milk dealer, on whose route more than 50 cases had developed in the past few weeks, was securing his milk supply from dealers in Indiana, and that typhoid fever had existed for some time and still existed among the dairy farmers of Hartsdale. The milk supply from this dairy farm was immediately ordered to be excluded from the Chicago milk supply, and the dealer in West Pullman was ordered to discontinue at once the sale of milk. On further investigation, it was found that the local dealer had known for several days that typhoid fever had been present at this dairy farm, and that a large number of cases were developing along his route, and revocation of his license immediately followed.

St. Luke's Hospital.—The opening exercises of the George Smith Memorial Building of St. Luke's Hospital were held this week. On October 18, which was also St. Luke's day, the building was dedicated with impressive ceremony by Bishop Anderson, assisted by Rev. W. O. Waters, rector of Grace Church; on the following evening a reception and banquet was tendered to the Chicago Surgical Society; on Tuesday the trustees and medical board invited the medical profession of the city to inspect the hospital, and a reception was held from 8 to 10 p. m.; and on the following day the hospital was thrown open for inspection by the public, when sixty Chicago women, members of the woman's board, received. This new annex to St. Luke's Hospital, made possible by the bequest of $500,000 by the will of the late James Henry Smith, fronts on Michigan avenue, is six and one-half stories in height, is to be devoted entirely to private patients, and contains 127 rooms, some of which are arranged in suites, containing sitting-room, dining-room, bed chambers and bath. The new building is the most modern, scientific and complete structure of its kind in the city.

IOWA.

Indicted Chiropractic Flees.—Bannar Howard, a so-called "chiropractic" of Iowa City, indicted charged with practicing medicine without a license, is reported to have left the city.

Merger Desired.—At the recent meeting of the Council Bluffs Medical Society, it was decided to make an effort to merge that organization with the Pottawattamie County Medical Society.

Hospital Notes.—The Des Moines Tuberculosis Institute will establish a colony near the city for advanced cases of tuberculosis. Nearly $500 has already been contributed and as soon as sufficient funds are raised an open-air hospital will be constructed in the northeast part of the city, to cost $1,000. The institution has changed its name to the Des Moines Health League.——The Sisters of Mercy are about to establish a new sanitarium as an adjunct to Mercy Hospital, Iowa City, to cost about $30,000.

KENTUCKY.

State Board Overruled.—In the case of John Murdock, Alton, who was refused license to practice by the State Board of Health, Governor Wilson, on October 1, sustained the action of Lieutenant-Governor W. H. Cox in directing that the board should grant Murdock a license. The governor's contention is that Murdock was a graduate of a reliable medical college recognized officially by the State of Michigan. The state law provides that where the decision of the State Board of Health is objectionable, an appeal can be taken to the governor, and that his decision shall be final.

Antituberculosis Society Organized.—Under the name of the Board of Conference on Tuberculosis, an organization has been effected between the representatives of the agencies and institutions of Louisville engaged in the fight against tuberculosis. The conference comprises representatives from the City Health Department, the Board of Public Safety, the Kentucky Antituberculosis Association, the Association Sanatorium, and the Board of Tuberculosis Hospital, and its aim is to promote and further the work of these bodies in their efforts for the eradication of tuberculosis.

MARYLAND.

Honors Won at Tuberculosis Congress.—Many honors were won by Maryland at the recent International Congress on Tuberculosis, a $1,000 prize by the Phipps Dispensary, gold medals by the state board and Eudowood Sanatorium, besides silver medals and honorable mentions. These are itemized in the report of the congress in this issue of THE JOURNAL, under Society Proceedings.

Report of Conditions in County Alms Houses.—Dr. Arthur P. Herring, secretary of the State Lunacy Commission, has just finished an inspection of the county almshouses and asylums, and reports startling and revolting conditions. In some of these institutions the insane are incarcerated in unventilated cells, reeking in filth, and in damp underground rooms; are shackled and handcuffed together in iron cages, and buildings that are overcrowded and dilapidated. He found the state hospitals to be well conducted and pleasantly situated, so as to afford every facility for the modern care and treatment of the insane.

Baltimore.

Memorial Meeting.—A meeting in memory of the late George J. Preston was held in the College of Physicians and Surgeons, October 14, at which an oil painting of Dr. Preston was presented to the college by the students of the three upper classes.

Eponymic Rooms.—It is said that in the new building for the Medical and Chirurgical Faculty of Maryland, now being erected, the main hall will be named for Dr. Osler; other memorial rooms will be the Charles Frick reading room; the Baker librarians' room; and the Friedenwald conversation room.

Personal.—Dr. Hugh H. Young returned from Europe October 15.——John B. Schwatka, Jr., son of Dr. John B. Schwatka, died October 17, from consumption, contracted while a medical student in Baltimore, two years ago.——Dr. Joseph T. Smith, Jr., has been appointed professor of obstetrics at Johns Hopkins Hospital.

City Society Election.—At the annual meeting of Baltimore City Medical Society, held October 16, the water and subway loans were discussed, and resolutions were passed pledging the support of the society to the project. The following officers were elected: Chairman, Dr. Eugene McE. VanNess; secretary, Dr. Sidney M. Cone; and member of the executive committee, Dr. William Caspari, Jr.

MASSACHUSETTS.

Glanders in a Human Subject.—On October 11 a death from glanders was reported at the City Hospital, Boston. The man was a teamster and had been ill about two weeks, the disease being at first thought to be typhoid fever.

New Dean for Harvard Chosen.—The board of overseers of Harvard College has chosen for dean of the medical school Dr. Henry Asbury Christian, professor of theory and practice of medicine. The choice has occasioned much comment, inasmuch as Dr. Christian is but 32 years old. He has been teaching at Harvard Medical School since 1902, and has been instructor in pathology for five years.

Antivaccinationists' Campaign.—Sixteen homeopathic physicians of Boston have addressed a letter to the public through the daily press, protesting against compulsory vaccination and affirming their own belief in its inefficiency. Quotations are made from the publications of the league in England, including alleged statistics of mortality from smallpox among vaccinated people in India.

Ether Day Celebration.—Ether day was celebrated October 16 at the Massachusetts General Hospital with more than usual ceremony. It was the sixty-second anniversary of the first administration of ether for surgical purposes. Clinics and demonstrations in the amphitheater and other rooms occupied the morning. Luncheon was served on the lawn at 1 o'clock, and was followed by formal exercises in the amphitheater. Fifteen house officers received their diplomas of graduation. The chief address was made by Dr. William W. Welch of Johns Hopkins on "Surgery as Affected by Ether Administration."

Boston Vital Statistics.—During the ten weeks ended Oct. 10, 1908, there were reported to the Boston Board of Health 2,387 deaths, as compared with 2,185 during the corresponding period last year, making an average weekly death rate of 19.27. Of these deaths 778 were under 1 year old, 1,078 under 5 years, and 458 over 60 years. The highest mortality was during the week ending August 22, 275, and the lowest during the week ending October 3, 212. There were reported 520 cases of diphtheria, with 35 deaths; 304 cases of scarlet fever, with 10 deaths; 320 cases of typhoid fever, with 22 deaths; 179 cases of measles, with 9 deaths; 482 cases of tuberculosis and 179 deaths; and 12 cases of cerebrospinal meningitis with 7 deaths; pneumonia caused 149 deaths, whooping-cough 125, heart disease 196, bronchitis 25, and marasmus 133.

New Hospitals.—October 14 and 15 two new hospitals were opened in Boston. One is the new emergency station of the City Hospital at East Boston, located on Porter street, a short distance from Central Square. For many years this district, which is separated from the city proper by the harbor, has urged its need of such an institution. A bequest from a former resident, Miss Ann E. Taggard, of about $11,500, was supplemented by $61,500 from the city. The building is of brick, with executive offices, waiting rooms, operating rooms, sterilizing rooms, etc. There are two small wards. In his address of presentation, A. Shuman, president of the Board of Trustees, called attention to the steady growth of the Boston City Hospital, which now includes 45 buildings, covering 28 acres of ground and valued at $3,376,231. The other hospital is the John C. Haynes Memorial Hospital for Contagious Diseases, which has been erected under the direction of the trustees of the Massachusetts Homeopathic Hospital. The fund of $175,000 left by Mr. Haynes has been expended in the erection of three large buildings located on Summit Avenue, Allston. The central or administration building contains the offices, nurses' and physicians' quarters. The two brick wards include all the modern ideas of hospital construction and isolation. Forty-eight patients can be cared for on the two floors of each building, besides many in private rooms, a total of 110. The land, buildings and furnishings have cost $300,000. The purpose of the hospital is to supplement the great public wards of the South Department of the Boston City Hospital. There are no free beds. Patients may be cared for in the hospital by any physician in good standing. Only cases of diphtheria and scarlet fever are to be admitted. It is expected that the hospital will fill a large place in the community, which has had few private rooms for these patients, and none where they could be attended by family physicians.

MISSOURI.

Studies in Cancer.—On October 29, Dr. James G. Mumford, Harvard University, will address the St. Louis Medical Society on "Studies in Cancer, Historical and Critical." Dr. George W. Crile, Cleveland, Ohio, will open the discussion.

Society of Medical Secretaries.—The Missouri Society of Medical Secretaries has adopted a constitution and by-laws, which state as the objects of the society, the cultivation of closer relationship between component county societies; the establishment of more uniform methods of conducting meetings; the development of the best means of creating and holding the interest in the work, an increased membership, and the betterment of the general welfare of the organized profession of the state.

MONTANA.

Personal.—Dr. Louis H. Fligman, Helena, has returned after a year abroad.——Dr. Alfred Karsted, Butte, has been re-elected state physician of the Sons of Hermann.——Dr. H. H. Swain, Dillon, sailed for Europe October 14.

Typhoid Fever and Smallpox.—An epidemic of typhoid fever is said to be raging at Taft.——The Secretary of the State Board of Health has ordered all smallpox patients at Victor isolated and has ordered the hotel disinfected.

Society Meetings.—On September 19, at the annual meeting of Fergus County Medical Society, held in Lewistown, Dr. John H. Willard was elected president; Dr. Williard A. Long, vice-president, and Dr. John T. Foley, secretary-treasurer, all of Lewistown.——At the annual meeting of Madison County Medical Association, held in Virginia City, September 30, Dr. Elmer L. Sutherland, Sheridan, was elected president; Dr. Arthur Jordan, Twin Bridges, vice-president, and Dr. Gay F. Tidyman, Ennis, secretary-treasurer.

Medical Ordinance.—An ordinance was recently introduced in the Butte city council which is understood to be approved by the Silver Bow County Medical Association. It provides more stringent measures than those of the state on the regulation of the practice of medicine. The ordinance taxes practicing physicians of all schools $20 a year, and provides that after a physician has secured a license from the state board, this must be presented to the clerk of the city of Butte for registration. The license will then be issued, but may be withdrawn if the license is revoked by the state board. The ordinance is intended to check the practice of advertising specialists, and the penalty for its violation is a fine of from $5 to $300, each day being considered a separate offense.

NEVADA.

State Meeting Postponed.—The meeting of the Nevada State Medical Association, which was to have been held in Goldfield October 6 and 7, has been postponed until November 10 and 11.

Fire in Rawhide.—A fire which started in the office of Dr. Gardner in Rawhide, September 4, caused a property loss of more than $750,000, rendered 300 people homeless, and resulted in the injury of twenty or more individuals.

NEW YORK.

Sanatorium Menaced by Fire.—Stony Wold Sanatorium for Tuberculosis, the state institution near Lake Kushaqua in the Adirondacks, is reported surrounded by forest fires, and more than 200 patients are ready to leave for a place of safety if the necessity should arise.

Delegates Visit Sanatorium.—Two hundred foreign delegates who have been attending the international congress on tuberculosis visited the Loomis Sanatorium, Liberty, October 10, on the invitation of Dr. H. W. King. They were entertained at dinner and inspected the various buildings.

Osteopaths to Register as Physicians.—The decision of the Court of Appeals in the case of Dr. Bandel of Brooklyn is that an osteopath may sign a death certificate and is on the same plane as any practitioner of medicine and surgery. Under this decision the Department of Health must register osteopaths as physicians and accept their death certificates.

New York City.

Cardiac Disease and Baseball.—Deaths from heart disease increased during the past week from 129 to 154. There were 70 deaths in Manhattan as compared with 58 for the previous week. It was alleged that the acute baseball situation was responsible for the increase.

Examination for House Staff.—There will be an examination for candidates for the position of interne of the City Hospital, New York, November 7, at 1:30 p. m., at the hospital on Blackwell's Island. Candidates are requested to submit credentials and to apply for further information to Dr. Joseph Collins, chairman of the examination committee, 37 W. 54th Street, New York.

Personal.—Dr. and Mrs. Smith Ely Jelliffe sailed for Europe October 17.——Dr. Phebe Dubois has received an appointment on the staff at the Flushing Hospital.——Dr. John F. Erdman has been appointed professor of surgery in the New York Postgraduate Medical School and Hospital.——Dr. Carl Beck, who has been dangerously ill with septic infection of the neck, is reported to be slowly improving.

New York Gets the Tuberculosis Exhibit.—Such an effective plea has been made to the board of aldermen that New York City has appropriated $20,000 for the purpose of bringing the exhibit in Washington to this city. In addition, $10,000 has been secured from private sources toward the sum of $30,000 necessary to carry out the project, to which George Phipps gave $1,500 and John S. Kennedy $1,500.

Contagious Diseases.—There were reported to the sanitary bureau for the week ended October 10, 597 cases of tuberculosis with 156 deaths; 284 cases of diphtheria, with 18 deaths; 146 cases of scarlet fever, with 4 deaths; 108 cases of typhoid fever, with 12 deaths; 33 cases of whooping-cough, with 5 deaths; 3 cases of cerebrospinal meningitis, with 1 death; 68 cases of measles and 19 cases of varicella—a total of 1,258 cases and 196 deaths.

Dark Room Evil.—In 1902 the official records showed that there were 361,661 dark, windowless, unventilated rooms, breeding places of tuberculosis and other diseases in the city. The law of 1901 requires that a window should be cut into each one of these rooms, letting in light and air. Up to the present time but 31,508 of such rooms have had these windows provided as a result of the Tenement House Department's orders. At the present rate of progress it will take more than 80 years to let light and ventilation into the dark rooms of New York's tenements. The Tenement House Committee of the Charity Organization Society of the City of New York is appealing for sufficient funds in order that this reform may be hurried.

Sea Breeze Hospital.—This hospital was established four years ago for the treatment of all kinds of bone, joint and glandular tuberculosis. Four-fifths of the cases were advanced. Of the first 43 patients, 27 had one or more discharging sinuses, amounting to 71 in all. The same grade of severity prevailed among the later cases. During the four years 136 patients have been under treatment, of which exactly one-half, 68, were cases of spinal or hip disease, which in 81 per cent. was in an advanced stage at the time of admission to the hospital. Of the 68 patients, 42 have been discharged, and of these 36 per cent. were cured and 19 per cent. improved, making 55 per cent. that were either well or progressing to recovery when they left the hospital. Among the discharged cases were 22 in which the knee or other joints were affected. Although 80 per cent. of the patients were in an advanced stage of the disease, 73 per cent. were cured and 13 per cent. improved. Subscriptions to the amount of $250,000 have been received for a permanent hospital.

NORTH CAROLINA.

Diphtheria and Scarlet Fever.—The graded schools of Dunn, on September 30, were ordered to be closed for ten days on account of the prevalence of diphtheria.——Owing to the prevalence of scarlet fever in Salisbury, the graded schools were ordered closed until October 15.

Medical Society Protests.—At the October meeting of the Guilford County Medical Society, a resolution was unanimously adopted that the society protest against the recent act of the legislature in amending the drug laws of the state, leaving it discretionary with druggists to sell or refuse to sell cocain, morphin, or other derivatives of opium, and chloral hydrate, without the written prescription of a legally authorized physician.

Personal.—Dr. P. B. Ledbetter, Asheville, has begun his duties as resident physician at the Jefferson Medical College Hospital, Philadelphia.——Dr. Harrison W. Dorsett, Bethany, who has been seriously ill, is reported to be convalescent.——Dr. James A. Burroughs, Asheville, who has been seriously ill, has recovered and resumed work.——Dr. Archibald Cheatham, Durham, has succeeded Dr. Julian A. Smith as a member of the Durham County Board of Health.

Fined for Contempt of Court.—Dr. S. Westray Battle, Asheville, on October 3, was fined $25 by Police Judge G. Spears Reynolds for refusing to testify as to his knowledge of the sale of liquor in Asheville in violation of the prohibition law. Dr. Battle based his refusal to testify on the ground that the investigation was unconstitutional. Dr. Battle has appealed to a higher court, and has also instituted a personal suit for damages for $5,000 against those who were responsible for his name being presented to the investigating judge.

OHIO.

Left Large Estate.—The appraisement of the estate of the late Dr. John Q. Southard, Marysville, shows the value of real and personal property to be about $100,000.

Does Not Want Advertisement.—Monroe County Medical Society has passed a resolution asking the lay press not to mention the name of the attending physician when giving accounts of operations or illness.

Hospital Notes.—Elyria Memorial Hospital will, it is announced, be open for inspection from October 26 to October 30, inclusive, and will be open for the reception of patients

October 31.——Structural work has been completed on the new Franklin County Tuberculosis Hospital and the building has been turned over to the county commissioners.——A sanitarium for tuberculosis patients is about to be constructed in Lorain county.

Illegal Practitioners.—Dr. Gabriel Samter, Detroit, is said to have been fined $50 in Sandusky, September 11, for practicing medicine without the required certificate. The Erie County Medical Society prosecuted the case.——The governor and attorney general have decided that Allen Welk, an optician of Youngstown, must stop using the title, "Doctor," and must pass the state examination before resuming practice.——Haralambe Albanezue, a Roumanian of Youngstown, was arrested August 23, charged with practicing medicine and surgery without a certificate from the state board, and was released under bond. He is said to have been acting as a specialist for men among his own countrymen, dispensing medicine and charging a small fee.

PENNSYLVANIA.

Doctor Fined for Failing to Make Report.—Dr. Ernest M. Vaughan, Royersford, alleged to have failed to report cases of typhoid fever, is said to have pleaded guilty, and to have paid the nominal fine, $25 and costs, amounting in all to $46.21.

Society Meetings.—At the annual meeting of the Northwestern Pennsylvania Medical Society, held in Cambridge Springs, the following officers were elected: President, Dr. James Johnston, Bradford; vice-presidents, Drs. George A. Reed, Erie; James B. Siggins, Oil City, and William C. Brittain, Cochranton; secretary, Dr. Michael V. Ball, Warren; treasurer, Dr. Charles W. Schmehl, Warren; and assistant secretary, Dr. Thomas Elliott, Sharon.

Rebukes for Physicians.—Steps are being taken by the Board of Health to break a practice of neglect on the part of physicians promptly to report all cases of contagious disease as required by law. Four physicians were summoned before the board October 15, and William H. Warwick was admonished for allowing a patient to travel in the street cars with diphtheria and was informed that a perpetration of a like offense would be summarily dealt with. Dr. Charles B. Wurtz was charged with a similar offense, but his explanation of the circumstances of the case was accepted by the board. The two other physicians, who did not appear, will be given another opportunity before legal steps are taken against them.

Railroad Accidents.—According to the first monthly accident bulletin, recently issued by the Pennsylvania State Railroad Commission, the daily average of accidents on the railroads and street railways of the state was 38. The bulletin issued on October 4 covers the month of August and shows that 1,193 persons were killed and injured on all the railroads and street railways of the state. Of this number, 759 casualities occurred on the railroads alone, thus making the percentage of accidents on such roads 64. A feature of the report is the large number of trespassers killed on the railroads. Under this classification was constituted 63 per cent. of all deaths which occurred on railroads during the month. More than 28 per cent. of fatal injuries was suffered by employés and 70 per cent. of injuries suffered on railroads occurred to employés. In the reports of the street railway companies relatively small injury to employés is shown. Seventy per cent. of the injuries reported were suffered by passengers. The average number of killed daily was almost 3 and the average number of accidents daily was about 35. Of the 92 deaths which occurred during the month, 55 were caused by persons being struck by trains.

Philadelphia.

Murphy Honored.—Dr. John B. Murphy, Chicago, was the guest of honor at the quarterly banquet and reception of the Medical Club of Philadelphia in the Bellevue-Stratford, October 16. Dr. Murphy, in a brief address, said that he often wondered whether the coming generation will receive the thorough education that is given to the present, because the private physician has lost control of the young men of to-day. This function, he said, is passing more and more into the hands of the privately endowed universities and institutions supported by the states. Dr. Murphy made a plea for more attention to clinic work, which he believed was being sacrificed for laboratory study. He said we should pay more attention to the education of the public along medical lines and the ethics of the medical profession, he said, should not be neglected. Dr. Murphy was also entertained at luncheon at the University Club by Dr. John B. Deaver.

TENNESSEE.

Society Meetings.—The East Tennessee Medical Society held its annual meeting in Newport, September 24 and 25. Dr. Ernest R. Zemp, Knoxville, was elected president; Dr. George R. West, Chattanooga, first vice-president; Dr. John W. Cox, Johnson City, second vice-president, and Dr. William M. Copenhaver, Bristol, secretary-treasurer.

Medical Colleges Open.—The opening exercises of the Medical Department of Vanderbilt University, Nashville, were held September 16, the opening address being delivered by Rev. W. H. Johnston.——The Medical Department of the University of Tennessee, Nashville, opened for its thirty-fifth annual session September 15. Dr. Hilliard Wood, the newly elected dean of the faculty, presided, and Dr. William D. Haggard delivered the address of welcome.——The Medical Department of the University of Nashville opened for its annual session September 15. Dr. William G. Ewing, dean of the faculty, welcomed the students, and announced that it was proposed to build a new hospital to be operated in connection with the institution.

TEXAS.

Will Erect Sanitarium.—Dr. Luther A. Grizzard, Abilene, is preparing to erect a sanitarium at Weatherford, to cost $25,000.

Communicable Diseases.—An epidemic of typhoid fever is reported in Flatonia.——Smithville reports two cases of diphtheria.——Several cases of smallpox are reported around Alazam.

Medical College Opening.—The Medical Department of the University of Texas, Galveston, opened for its annual session October 1, when Dr. James J. Terrill, acting professor of pathology, delivered the opening address.

Texas Gets Tuberculosis Exhibit.—Dr. William Brunby, state health officer, announces that he has arranged to have the New York State exhibit, which received so much favorable attention at the recent International Congress on Tuberculosis, shipped to the Texas State Fair for display.

Medical Board Loses.—The district court decided in favor of Harlam A. Trask, Houston, who sued the state board for a verification license for the practice of medicine. The board had refused, claiming that the license granted by the old board in 1904 was illegal. The board will appeal.

State Medical Law Upheld.—In the case of S. A. Morse, who sought a mandamus against the State Board of Medical Examiners to compel the board to grant the license which had been refused on the allegation of unprofessional conduct, the district court, September 18, decided that the action of the state board was valid, and refused the appellant a license.

Personal.—Dr. Gustave M. Corput, P. and H. and M.-H. Service, has been appointed physician to the public schools of Galveston.——Dr. B. T. Young has succeeded Dr. L. B. Bibb as quarantine officer at Port Cavallo.——Dr. A. E. Austin, formerly of Tufts Medical College, has been appointed successor to Dr. Seth M. Morris as professor of chemistry in the Medical Department of University of Texas, Galveston. Dr. Morris has been appointed to the chair of diseases of the ear, nose and throat.——Dr. Otis L. Williams, Oak Cliff, Dallas, is said to be critically ill.

WASHINGTON.

Hospital News.—The city council of Seattle has recommended the expenditure of $20,000 to maintain a city hospital in the municipal building.——The work on the new addition to the King County Hospital, Georgetown, will be finished about November 1.

Health Report.—The health report for Seattle for August shows 176 deaths, equivalent to an annual mortality of 7.63 per 1,000. The principal causes of death were diseases of the digestive system, 45; accidents, 23; diseases of the circulatory and nervous system, each, 4; tuberculosis, 12; diseases of the genitourinary system, 9; cancer and diphtheria, each, 6; typhoid fever and suicide, each, 5; homicide, 2; and scarlet fever, 1. During the month the following cases of contagious diseases were reported: Diphtheria, 53; typhoid fever, 48; tuberculosis, 15; scarlet fever, 14; measles, 9; smallpox, 4; and cerebrospinal meningitis, 1.

State Society Election.—The nineteenth annual meeting of the Washington State Medical Association was held in Walla Walla, September 7-9. The following officers were elected: President, Dr. Clarence A. Smith, Seattle; vice-presidents, Drs. Yancey G. Blalock, Walla Walla, and William D. Kirkpatrick, Bellingham; secretary, Dr. Curtis H. Thomson, Seattle; treas-

urer, Dr. Leon L. Love, Tacoma; delegate to the American Medical Association, Dr. James R. Yocum, Tacoma; alternate, Dr. Harold H. McCarthy, Spokane; judiciary committee, Drs. Charles S. Hood, Ferndale; Luther M. Sims, Kalama, and Frank Rose, Spokane. Seattle was decided on as the place of meeting for 1909, and July 25 was fixed for the date.

GENERAL NEWS AND COMMENT.

In Memory of Montgomery and Taylor.—The American Dermatological Association, at its recent meeting, adopted resolutions on the death of two of its prominent members, Dr. Frank Hugh Montgomery, Chicago, who was drowned in White Lake, Mich., July 14, while endeavoring to save the life of a companion; and Dr. Robert William Taylor, who died at his home in New York City, January 4.

National Epilepsy Association to Meet.—The eighth annual meeting of the National Association for the Study of Epilepsy and the Care and Treatment of Epileptics will be held at Indianapolis, November 10 and 11. Visits will be paid Tuesday to the Central Indiana Hospital for the Insane where Dr. A. E. Sterne will hold a clinic, and Thursday, to the new Indiana Village for Epileptics at New Castle. Further information can be obtained from the secretary-treasurer, Dr. J. F. Munson, Sonyea, New York.

Wants Data on Arrest of Epilepsy by Intercurrent Disease.—Dr. Weir Mitchell will be much obliged by an answer from members of the profession to the following query: Have you seen any cases of arrest, temporary or permanent, of undoubted epilepsy, owing to intercurrent disease, such as pneumonia, scarlet fever, measles, diphtheria, whooping cough or tuberculosis? Exact statements in regard to this matter are desired, addressed to Dr. S. Weir Mitchell, 1524 Walnut street, Philadelphia, at as early a date as may be convenient.

Military Surgeons Meet.—At the seventeenth annual meeting of the Association of Military Surgeons of the United States, held October 13 to 15, at the Piedmont Hotel, Atlanta, under the presidency of Dr. George Tully Vaughan, P. H. and M.-H. Service, it was decided to hold the next annual meeting at Washington, D. C.; and the following officers were elected: President, Rear Admiral Presley M. Rixey, Surgeon-General U. S. Navy; vice-presidents, Col. Joseph K. Weaver, N. G. Pa.; Col. William C. Gorgas, Medical Corps, U. S. Army; and Surgeon Charles P. Wertenbaker, P. H. and M.-H. Service; secretary and editor, Major James Evelyn Pilcher, U. S. Army, retired, Carlisle, Pa.; and assistant secretary, Capt. J. Carlisle DeVries, N. G., N. Y., New York City.

Another Typhoid Fever Carrier.—The board of officers of the U. S. Public Health and Marine-Hospital Service, appointed in conjunction with the health officer of the District of Columbia to investigate the cases of typhoid fever in the district, have made a very important discovery. Twenty-six cases of typhoid fever in Georgetown, D. C., between October 8 and 15 were traced to milk in one dairy farm in the neighborhood. On a thorough investigation of the dairy, no case of typhoid fever could be found, nor was there any history of such a case for years. The investigation included employés. Neither was there found any other source of infection until after a most systematic examination was made of dejecta of all employés. This led to the discovery of a woman who had typhoid fever eighteen years before, and whose dejecta showed a large number of typhoid bacilli. She was one of the milkers at the dairy.

Mississippi Valley Association Meeting.—The annual meeting of the Mississippi Valley Medical Association was held in Louisville, October 13 to 15, under the presidency of Dr. Arthur R. Elliott, Chicago. His presidential address was on "Currents and Counter-Currents in Medicine," and will appear in full in THE JOURNAL. Dr. George Dock, New Orleans, delivered the oration in medicine on "Tropical Diseases and the Mississippi Valley," and Dr. Arthur D. Bevan, Chicago, the oration in surgery on "Surgery of the Kidney." The following officers were elected: President, Dr. John A. Witherspoon, Nashville, Tenn.; vice-presidents, Drs. Louis Frank, Louisville, and Albert E. Sterne, Indianapolis; secretary, Dr. Henry E. Tuley, Louisville (re-elected); and treasurer, Dr. S. C. Stanton, Chicago (re-elected). St. Louis was selected as the place of meeting or 1909. A detailed report of the meeting will appear in an early issue of THE JOURNAL.

Appeal in Harper Case Withdrawn.—According to information received from Washington, Robert N. Harper, who was found guilty of misbranding under the Food and Drugs Act and fined $700, has withdrawn his appeal and has accepted the sentence of the judge. This action brings to a successful conclusion the first prosecution against "patent medicine" vendors instituted under the provisions of the national Food and Drugs Act. The details of the trial were given in THE JOURNAL, March 21, 1908, page 981. The reason given for the withdrawal of the appeal is that exactly the same issues are involved in the civil suit for the condemnation of certain quantities of Harper's preparation which were seized by the government at the time the court proceedings were instituted. This case is still pending. The action in the civil suit covers not only all the questions involved in the polic court trial, but a number of others of great importance, especially whether a manufacturer can, by proceedings under the Food and Drugs Act, be restrained from using a trade-marked name to designate his goods, when the use of such a name may constitute a misbranding of the goods sold under it. A decision having been secured in the criminal action, the outcome of the civil proceedings will be watched by all interested in the enforcement of the Food and Drugs Act.

FOREIGN.

Russians Withdraw University Privileges from Women.—Mme. Vera Dantschakoff, M.D., was recently elected privat docent for histology at Moscow, but the government authorities refused to confirm her appointment, stating that the regulations forbid the employment of women in the university faculties. The minister of public instruction issued about the same time a decree prohibiting the admission of women students to the university courses in future, although those at present enrolled will be allowed to complete their courses.

Centennial of Swedish Medical Association.—October 25 is the centennial of the founding of the Swedish Medical Association, and the anniversary is to be celebrated by issuing a *Festschrift* and distribution of a souvenir medal. The medal is of bronze and on one side bears medallions with portraits of the seven founders of the society, including Berzelius and Gadelius. This medal can be ordered by outsiders for 10 kronor ($2.70), and hundreds of orders were received from the members and other physicians in the Scandinavian countries and Germany. The medal is in charge of the secretary, Prof. E. Müller, Stockholm. The association has recently received a bequest from the late Prof. K. G. Lennander of $5,400 to endow a fund for lectures on surgery or hygiene by some eminent Swedish or foreign investigator. One-sixth of the income is to be added to the capital each year, and the rest paid to the lecturer; the lectures must be submitted for publication, so that the profession at large will also profit by them as they are published in *Hygiea*, the organ of the association.

LONDON LETTER.

(From Our Regular Correspondent.)

LONDON, Oct. 3, 1908.

Syphilis in Uganda.

At the United Services Medical Society, Colonel Lambkin of the Royal Army Medical Corps gave an alarming account of the ravages of syphilis in the protectorate of Uganda, which once again illustrates the fact that the introduction of civilization into a savage country is not an unmixed blessing. The ravages of sleeping sickness in that country from opening up trade routes have been described in previous letters to THE JOURNAL, but according to Colonel Lambkin, the ravages of syphilis are still greater, for while the former slays its victims, the latter is transmitted to the next generation. There is evidence that occasional cases of syphilis have occurred in Uganda for many years, but about twelve years ago a severe outbreak began and since then the disease has increased in virulence and extent until it is now estimated that half the population are infected, and in some districts as many as 90 per cent. The infant mortality from the disease reaches 50 or 60 per cent. It seems that the population is threatened with extinction or degeneration. The type of the disease is extremely virulent, recalling that described by Sir William Ferguson in Portugal a generation ago. The principal cause to which the epidemic is attributed is the introduction of civilization, which has given to the women a freedom unknown under the tribal laws and opportunities for promiscuous intercourse. Stations are being established for the mercurial treatment of the disease.

Typhoid Carriers in India.

The existence of "typhoid carriers" has only recently been recognized in Great Britain. In an official report, which has just been issued, Lieutenant-Colonel Semple and Captain Greig, of the Indian Medical Service, state that typhoid carriers are

by no means uncommon in India and are responsible for many outbreaks of the disease which have hitherto baffled explanation. An outbreak which occurred in a detachment of the Bedfordshire Regiment in Kasauli was found to be due to a cook who excreted intermittently the typhoid bacillus in large numbers in the feces. This man gave no history of typhoid fever, but some years before he had suffered from "ague of a severe character," which was probably an unrecognized attack of the disease. In examining a large number of healthy soldiers from different units stationed at Meerut, one man was found to be passing feces containing the typhoid bacillus in large numbers. He had never suffered from typhoid fever, but had been a nursing orderly in attendance on typhoid patients. Out of 10 cases of typhoid fever which occurred at Meerut, 7 came from the unit to which this man belonged. Attention is specially called to the discovery that orderlies in attendance on typhoid patients may become carriers without being attacked by the disease. While the danger from typhoid carriers is thus shown to be great, on the other hand, the bacillus can maintain a saprophytic existence in India only for a short time after its discharge from the body. Typhoid bacilli in urine and feces allowed to stand at a room temperature (80 F.) protected from the sun, die in from 72 to 96 hours. When exposed to the Indian sun the typhoid bacilli rapidly die. A piece of cotton sheeting and a piece of dirty blanket were soaked in fresh urine containing 60,000,000 bacilli per cubic centimeter and dried. On exposure to the July sun for 2 hours the sheeting failed to yield colonies of the bacillus and the blanket yielded only a few. After exposure for a further 6 hours the blanket yielded no colonies.

The Scientific Education of the Medical Student.

The ever-increasing complexity of science makes greater and greater demands on the time of the medical student and presents to medical educationalists an increasingly difficult problem: How to teach all that is necessary in the limited time of the curriculum. In spite of the extension of the time to five years, it is becoming evident that if room is to be made for the constant demands made on the student's time by the progress of knowledge, some of the older subjects will have to be sacrificed. At the recent meeting of the British Medical Association, Professor Starling, recognizing this difficulty, said we are "trying to get two pints into a pot which formerly held one." His remedy is drastic. He would dispense with the subjects of botany and zoology and would direct that every scientific subject studied, whether it be chemistry, physics or physiology, should be considered only in its bearings on the future work of the doctor. This eminent physiologist was followed by Professor Armstrong who, as a teacher of chemistry, urged a thorough revision of the methods of teaching that subject. "The teaching of chemistry," he said, "must be brought into direct relation with that of medicine, pharmacology and physiology, to a far greater extent than it has been in the past." The anatomists recommended almost equally sweeping changes. The systematic lecture was unanimously condemned and described by Professor Sherrington as "nothing but a relic of the middle ages." They also agreed that the teaching of histology should be made over to them by the physiologist.

Demonstrations at the Royal College of Surgeons.

A new departure has been made at Royal College of Surgeons by which the utility of the magnificent collection of the museum will be greatly increased. Demonstrations will be given by the conservator, Professor Keith, and the pathologic curator, Mr. Shattock. Professor Keith's demonstrations will commence October 16 with the subject, "Malformations of the Rectum and Anus." The other subjects are: "Malformations of the Urethra and Genital Passages," October 23; "Ectopia Vesicæ and Allied Conditions," October 30; "Malformations of the Face," April 23; "Cleft Palate and Malformations of the Tongue," April 30; "Malformations of the Neck," May 7. Professor Shattock's demonstrations will be given as follows: "Hypertrophy," October 19; "Atrophy," November 16; "Lipoma," November 30; "Fibroma," December 14; "Myxoma and Chondroma," January 18; "Osteoplastic Inflammation of Bone," February 8. These demonstrations are intended for advanced students and medical practitioners.

Apoplexy or Head Injury?

The problem of deciding whether an effusion of blood found within the skull on postmortem examination is due to injury or disease is often difficult and at times impossible. In a compensation case at the Blackburn County Court the point was decided in a curious but instructive fashion. A widow claimed compensation for the death of her husband, a laborer, who fell from a scaffold. The physicians who made the postmortem examination, said that a clot of blood found on the brain might have been either the cause or the effect of the accident. But witnesses stated that as the man fell he cried "My God!" This was held to discredit the theory of apoplexy and the widow was awarded $750.

Statistic Department at the London Hospital.

The latest addition to the long list of special departments attached to the London Hospital is a statistic department. The house commitee and medical council have long felt that the improved methods of modern statistic science should be applied to the collection and analysis of the unrivalled material of the hospital. It is hoped that an enormous number of practically untouched problems will be solved by the department. It is purposed to use voluntary workers, especially those desirous of preparing graduation theses, who will find excellent opportunities in the Department. If a sufficient number of students give in their names a course of theoretical and practical instruction will be given.

PARIS LETTER.

(From Our Regular Correspondent.)

PARIS, Oct. 1, 1908.

Physicians and Industrial Accidents.

In the application of the law on industrial accidents, a number of practical difficulties have arisen which are of interest to the medical profession. In establishing the principle of compensation to the workman for injury sustained during or by reason of his occupation, the law of 1898 has transformed hitherto indigent individuals into paying patients, since hereafter the head of the concern involved will have to pay the medical expenses occasioned by accident. There is, however, an important omission in the law: it fails to provide that the victim of an accident shall be actually free to choose his own physician. It has therefore become, in the powerful hands of the great insurance companies, an instrument for the exploitation of physicians.

THE INSURANCE COMPANIES AND THE PHYSICIANS.

The insurance companies have compelled the physicians to agree to accept payment contracted for according to a schedule fixed in advance. The physicians are thus paid, not according to the gravity of the injury, but so much per accident—according to certain contracts, 10 francs, or about 82 for each case. Fortunately, some judges, taking into account the varying requirements of injuries, have refused to recognize the validity of such contracts, declaring that to do so would be "to insult the medical profession, to put the unfortunate injured at the mercy of unscrupulous insurance companies, and to impose a real pact of famine on the physicians who care for those crippled by industrial accident."

To understand how it was possible to find physicians ready to accept such "pacts of famine," it is necessary to know how the insurance companies operate. They send an agent to make advances to a physician in the neighborhood of a factory along the following lines: "If you accept our proposition, you shall be guaranteed against all competition; if you decline, the company will send to your locality a physician of its own selection." And, for fear of a competitor, the physician accepts. A circular letter addressed by a great company to the physicians of a provincial city contains the following words: "You are doubtless aware that all insurance companies are associated for purposes of mutual assistance and protection. We shall, then, if you are obdurate, be compelled to submit to the insurers' union the correspondence which you have addressed to us. The consequence will be, either that the physicians of the city of X—— will accept a reasonable schedule, or that such a schedule will be established through a physician appointed by the insurers' union, who will be sent into your city; this has been done in several localities where we have found the physicians recalcitrant, and has been found to work extremely well."

FREE CHOICE OF PHYSICIAN BY THOSE INJURED AT WORK.

The abuses of the insurance companies have led to a modification of the law of 1898, which, unfortunately, does not go far enough. Instead of providing that the victim of accident or his representatives alone have the right to choose his physician, the law of 1905 merely provides that the victim shall always have the privilege of choosing his physician. The insurance companies seek, in disregard of law and of the welfare of the injured, to impose on the victim the company's physician. By the law of 1905 a fine of 16 to 300 francs

(about $3.20 to $60) may be imposed on any one who, by threat of dismissal or by withholding or threats of withholding indemnities due under the law, shall interfere or attempt to interfere with the right of the victim to choose his own physician. It is disgraceful that this penalty should have been first enforced against a physician. Sent by the employer to the home of the injured man, who was already under the care of a physician, this physician demanded to be allowed to remove the dressings applied by his confrère and to examine the wound, which was refused. Then he brandished some printed papers which he had in his hand, declaring that he would tear them up and that the wounded man should have no indemnity. The attending physician, seeing an attempt to infringe the patient's right to choose his own physician, took the affair into court. The offender was condemned to pay a fine and damages to the attending physician.

EXPERTS WHO ARE TOO COMPLAISANT.

The insurance companies have also been able to make advantageous arrangements with certain experts, whose morality is less elevated than their medical reputation. The result is that, out of seventy physicians on the list of experts, the companies' lawyers see that only a certain dozen are always called on for expert evidence in accident cases. Therefore, as the minimum price of expert evidence is 100 francs (about $20), and as in 1907, for instance, the twelve experts have delivered nearly 8,000 pieces of expert evidence, the insurance companies have thrown into their hands in the course of a year 800,000 francs (nearly $16,000). These experts show their gratitude by assisting the companies to economize at the expense of the injured and of other physicians. They arbitrarily reduce the bills for medical expenses and as arbitrarily minimize the incapacity for work resulting from accidents.

BERLIN LETTER.

(From Our Regular Correspondent.)

BERLIN, Sept. 10, 1908.

Personal News.

The professor of physiology in our university, Professor Engelmann, retires this winter from his professorship. He was the successor of Du Bois-Reymond, who followed his teacher, Johannes Müller. Engelmann certainly was not the equal of his two predecessors in importance. While Johannes Müller was one of the most talented physiologists of all times, and Du Bois-Reymond was a spirited, versatile investigator distinguished by brilliant speech and literary gifts, Engelmann merely represents the type of a learned specialist who to be sure has produced valuable works, especially in the field of physiology of the heart. There is as yet no conjecture as to his successor. After Du Bois-Reymond's death, Rubner, the hygienist, is said to have solicited the chair, and there is no question that this distinguished and trained investigator in physiology would have filled his place well. The reason why Rubner was not called is not known. Hermann Munk, a pioneer particularly in the field of physiology of the brain, also appeared as a claimant. He was rejected, according to general belief, because he was of the Jewish faith. This year Munk resigned the chair of physiology at the veterinary college of this city. His successor is a young, but gifted investigator, Dr. Abderhalden, who was advanced from the position of privatdocent to that of ordinarius. Engelmann's assistants, Nagel and Thierfelder, are also leaving Berlin, the former to succeed to the chair of the recently deceased Professor Langendorff, at Rostock, and the latter to go to Tübingen as successor of Professor Hüfner. Thus the staff in charge of the Physiologic Institute here will have to be new throughout.

Medical Study Trips.

In 1902 a committee was formed in Berlin to organize annual educational trips for physicians to watering places and health resorts. The participation of German physicians has varied between 100 and 300 members, according as the points to be visited were more or less interesting. The expense to each participant in the study trip varies between 150 and 300 marks ($36 to $72), which is surely not high for an average of 14 days; railroad fare, lodging and services are furnished. The organization and the entire arrangement have proved very successful, so that the patronage has on the average increased from year to year. The proprietors of the health resorts take care to impart to physicians as much information as possible during their stay, and the study trip is personally conducted by some eminent clinician. Dr. Oliver, of Berlin, is the general secretary of the committee, and this year's trip was made under the direction of von Strümpell, of Breslau, to Teneriffe. The institution has attracted the attention of other countries, and similar ones have been established in France, Belgium, Austria, etc., and an international committee for medical education trips has been formed. It is planning a common journey to Hungary next year on the occasion of the international medical congress at Budapest.

Death of Professor Poehl.

While passing through Berlin a few days ago, Prof. v. Poehl, of St. Petersburg, died. He was better known from the introduction of various pharmaceutical preparations, especially his spermin, which was advertised with such remarkable claims, than for his scientific achievements. At the German as well as the foreign medical congresses, Poehl was for a long time an unfailing speaker, who either in an address announced beforehand or on the occasion of a debate seized the opportunity to discourse on the subject of catalysis and to end with spermin. These constant discussions which by their repetition became distasteful and unconvincing, and still more the puffs becoming constantly more fervent in the advertising sheets, alienated Poehl to a greater or less extent from his original adherents. This may be one reason why in late years he has not taken part in congresses so far as I know. In the medical and also in the lay journals one still reads that Poehl's spermin is successfully applied in "neurasthenia, senile marasmus, anemia, rachitis, gout, chronic rheumatism, syphilis, hysteria, tuberculosis, typhus, diseases of the heart, nephritis, tabes dorsalis, paralysis, neurasthenic impotence, overwork, acute diseases, and for convalescents." Few quack advertisements would differ much from this puff of Poehl's spermin.

VIENNA LETTER.

(From Our Regular Correspondent.)

VIENNA, Oct. 8, 1908.

Remuneration of Medical Men in Public Office, Etc.

An interesting statistical study of the financial aspect of medical appointments has recently been published in an official paper. About 40 per cent. of the doctors in the country, and about 20 per cent. of those in the towns and cities hold public appointments, either as officers of public health, or as poor-law or police physicians. The lowest remuneration for public health officers is about $240 a year. This sum is offered to and accepted by men aged about 28 or 30, who have passed five years in medical study and three years in hospital practice, and who have passed the special examination for public health officer. The appointment given is that of assistant to the district health officer, and no private practice is allowed. State appointments are ill paid, considering the amount of work required. The highest salary paid to appointees is $2,400 a year; only 10 per cent. of medical officers ever reach this. The majority (60 per cent.) are paid from $1,000 to $1,800 a year, with some emoluments besides. Usually no private practice is permitted, or if it is permitted, the health officer has not time for it. Old-age pensions are, however, granted to the holders of such officers, and pensions are given to their widows.

Salaries of medical officers of private concerns, such as the official sick-benefit society, or *Krankenkasse*, factories, etc., are also very moderate. Seventy per cent. receive about $400 to $600 a year, with the right of private practice, while 13 per cent. receive between $600 and $1,500 a year through cumulative appointments. The rest receive less than $400 a year.

These figures show that the study of medicine has been taken up by men who need a certain fixed income. On the other hand, the profession is evidently overcrowded, or its members would not consent to do such work for so little.

Only recently, the fees for medical expert witnesses and for public vaccinators have been fixed so as to be more proportionate to the loss of time entailed by the service. Still the profession is unable to bring about a modification of the law so as to limit the number of those who must belong to the *Krankenkasse*, which at present includes all those in subordinate industrial or business positions. The doctors want to make those who draw a higher salary than $500 a year ineligible to membership. This would increase the chances of the private practitioners, and relieve the task of the holders of medical appointments in the *Krankenkasse*.

The figures of the tax assessors differ a little from those just cited. According to the tax assessors, less than 5 per cent. of all medical office holders receive $240 a year; and about 70 per cent. receive average pay. The cause of this difference in estimates is not clear; but even these figures are scarcely gratifying to the medical student.

Pharmacology

NARKINE.

The Intangible Product of the Tilden Laboratory.

A little book, published by the *Druggists Circular*, and called "Modern Materia Medica," gives in dictionary form the information regarding new remedies which that journal publishes in its monthly issues. Such information is not always acceptable to the manufacturers of various preparations of doubtful value. A case in point is brought to notice with reference to a remedy called Narkine, put out by the Tilden Company of St. Louis. In this little book the following appears:

> "Narkine is described as 'an opium preparation from which all deleterious qualities have been eliminated'; an unsupportable claim, as all opiates and other hypnotics are essentially deleterious."

The Tilden Company wrote to the *Druggists Circular*, stating that they guaranteed Narkine "to be absolutely free from coal-tar or opium derivatives," yet the "literature" of the company describes it as

> "a specially prepared product of opium devoid of the nauseating and disagreeable properties of this drug, yet possessing the anodyne and soporific principles of same in the highest degree."

To remove from opium all its derivatives and yet retain the anodyne and soporific principles attached to nothing in particular, indicates a degree of pharmaceutical skill seldom attained. One is irresistibly reminded of the Cheshire cat in "Alice in Wonderland," whose smile remained long after the cat had vanished.

The absurdity of the thing, however, has apparently not occurred to many physicians, for these disembodied spirits of the pharmacologic world are evidently being prescribed.

The *Druggists Circular* is to be congratulated on exposing this latest pharmaceutical freak. It does so in a rather striking manner by means of photographic reproductions of the claims of the Tilden Company.

"Patent Medicines."

In a discussion of the relation of pharmacists and physicians, Robert Wright, in his presidential address to the British Pharmaceutical Conference (*Pharmaceutical Journal*, Sept. 19, 1908), calls attention to the alarming growth of the trade in so-called "patent medicines" in the United Kingdom. Statistics show that the amount expended in remedies of this sort has increased from $1,697,500 in 1860 to $12,707,000 in 1907. The amount spent per capita is now five times as great as it was a half a century ago.

The author says: "Figures such as these command our most serious consideration. After making full allowance for the increased spending power of the masses, they prove conclusively that notwithstanding the wide diffusion of knowledge, the spread of education and the raising of the standard of intelligence among the people, the appeal of the quack and the charlatan to the credulity of the public meets with a readier response than ever. Judging from the character of the advertisements which appear in the public press and the results accomplished, it would seem as if the secret of success lay partly in throwing around the origin of the article advertised the glamor and romance of the marvellous, partly in a most cunningly devised appeal to all the weaknesses of mind and body to which frail mortals are subject, but chiefly, I think, to the lavish expenditure of money and the variety and persistence of the methods of advertising employed in order to secure the end in view. Let anyone take up a daily paper or public journal of any kind and study a few of these quack advertisements, and he will find that the main object in almost all is to produce in the mind of the reader, either by suggestion or by means of a highly exaggerated description of the symptoms supposed to characterize a certain disease or combination of diseases, the idea that he is suffering from this particular ailment of which the remarkable remedy advertised is an absolutely certain cure. The entire system is nothing more or less than a gigantic and most monstrous imposture from beginning to end."

Queries and Minor Notes

ANONYMOUS COMMUNICATIONS will not be noticed. Queries for this column must be accompanied by the writer's name and address, but the request of the writer not to publish name or address will be faithfully observed.

COMPOSITION OF MARMOLA AND RENGO FRUIT.

CHICAGO, Oct. 7, 1908.

To the Editor:—I have recently seen two patients who have been taking marmola for obesity, and both showed marked nervous reactions. I wish that, if possible, you would state the composition of this preparation. If the cases which I have seen are any criteria, marmola is distinctly injurious and should be strongly condemned.

MILTON MANDEL, M.D.

ANSWER.—At the recent session of the American Medical Association, Dr. Reid Hunt, chief pharmacologist, and Dr. Atherton Seidell, chemist, of the Hygienic Laboratory, U. S. Public Health and Marine-Hospital Service, noted that thyroid preparations (like almost all other drugs whose value physicians have discovered) had already passed into the hands of the laity and are probably more extensively used by them than by physicians. (See the article in this issue, page 1385.) They noted that "patent medicine" manufacturers have taken advantage of the action of thyroid, and that most antifat remedies now contain thyroid as the active ingredient. Along with other antifat remedies containing thyroid, Drs. Hunt and Seidell named marmola. They compared the indiscriminate use of thyroid with the extended use which acetanilid enjoys, or at least did enjoy with the laity. It was noted that the medical profession quickly appreciates the dangers connected with new remedies and learns to use them cautiously. Thus, with thyroid, many physicians have already practically abandoned its use for safer remedies, or are using it only in cases in which it is indispensable. On the other hand, "patent-medicine" manufacturers notwithstanding their ignorance of the first principles of diagnosis and therapeutics, most recklessly advocate the use of remedies that may be pregnant with danger.

In this connection it may be well to call attention to "Rengo Fruit," another much advertised "obesity cure," which also is referred to by Drs. Hunt and Seidell. Dr. L. F. Kebler, chief of the drug laboratory of the Bureau of Chemistry, U. S. Department of Agriculture, discussed the analysis of this "patent medicine" in a paper that appeared in THE JOURNAL, Nov. 17, 1906. It was shown that the "fruit" really consists of thyroid gland, poke root, cascara and other drugs.

RADIUM.

DOTHAN, ALA., Oct. 7, 1908.

To the Editor:—Where can radium bromid be bought and at what price? What is the technic of application in epithelioma of the face?

W. C. HOWELL, M.D.

ANSWER.—Radium is sold by Elmer & Amend, New York City. The current prices of different strengths can be learned on application to them. Pure radium bromid is not always obtainable without delay. It is handled in commerce in small glass capsules or it may possibly be obtained incorporated in a shellac disc. In the treatment of epithelioma the radium container is applied directly to the lesion. The alpha and beta rays have very little penetrability. In using radium, therefore, it is desirable to use a container having a window of mica or some other material through which the beta rays will penetrate; the alpha rays will not even penetrate this. The duration of the applications vary according to the strength and the quantity of radium used. With fifty milligrams—about 8/10 of a grain—of pure radium bromid, relatively a very large quantity, Williams makes applications of from one to four minutes on alternate days, continuing them until improvement appears in the lesion. Pure radium bromid is estimated at 1,800,000 units activity. With weaker preparations, correspondingly longer applications must be made. With a given specimen one needs to increase the applications tentatively until one gets evidences of effect either by improvement in the lesion or by the appearances of a reaction.

CHEMICAL CHANGES IN BUTTER-MAKING.

PHILADELPHIA, Oct. 12, 1908.

To the Editor:—What chemical change takes place in churning sweet cream to butter, leaving the buttermilk sour?

F. W. STEINDOCK.

ANSWER.—The souring of the milk is due to the action of bacteria, principally the *Bacillus lactici acidi*, on the sugar of the milk. One molecule of milk sugar, by the assumption of water, gives rise to four molecules of lactic acid, $C_{12}H_{22}O_{11}+H_2O=4HC_3H_5O_3$. The churning of the milk aids the process only by thoroughly mixing the bacilli with the milk and thus enabling them to reach the molecules of sugar more readily. Moderate increase of temperature also favors the fermentative action. In "sweet" cream the action of bacteria may have begun before the cream is put in the churn, but not have progressed far enough to render the acid perceptible to the taste. These statements are made in simple form and do not detail all the chemical changes occurring in the souring of milk. Milk sugar must be converted into dextrose and galactose before lactic acid can be formed. Other acids, such as acetic and butyric, are also formed in small quantities. The changes varying according to the temperature and according to the organisms present in the milk.

ATROPIN SULPHATE IN GENERAL ANESTHESIA.

BOISE, IDAHO, Sept. 15, 1908.

To the Editor:—In his article on "Artificial Respiration" in THE JOURNAL, Sept. 5, 1908, p. 803, Prof. Schäfer speaks of the beneficial effects of atropin in general anesthesia and says certain dangers may be "obviated by hypodermic administration of a small dose (1/50 grain) of atropin sulphate." Is this a misprint, or does he consider 1/50 grain hypo. a small dose? J. M. TAYLOR.

ANSWER.—The above query was referred to Prof. Schäfer, who says:

I suppose 1/50 grain atropin would be reckoned a large dose, and I was not right in putting in the word "small." I always direct that 1/100 grain should be first given, half an hour before the operation, and another 1/100 grain shortly before the chloroform is administered. This is safer in case there should be any idiosyncrasy favoring the development of adverse symptoms. But I have never, under these circumstances, heard of any, and in dogs I always give the 1/50 grain in one dose. As a matter of fact, I believe that the average in the treatment of some affections goes up to 1/30 grain or even higher.

MEDICAL SERVICE IN ARMY AND NAVY.

———, Ohio, Oct. 12, 1908.

TO THE EDITOR: Where can I secure information regarding medical service in the Army or the Navy? M. X.

ANSWER: A page was devoted to the detailed answer of this question in THE JOURNAL, Oct. 19, 1907, page 1386. Information may also be obtained from the surgeon-general of the Army or the Navy at Washington, D. C.

KUGEL'S OPERATION FOR OCCLUSION OF THE PUPIL.

WINNIPEG, MAN., Sept. 21, 1908.

To the Editor:—Please inform me where I can find a good description of Kugel's operation for occlusion of the pupil. It is mentioned on page 114 of a new book by Claiborne on "Cataract Extraction," but is not described. RAYMOND BROWN, M.D.

ANSWER.—A description of Kugel's operation for occlusion of the pupil can be found in *Archiv. f. Ophthalmologie*, lxiii, page 55. It is also mentioned with other operations for secondary cataract by Dr. Denig in the *Ophthalmic Record*, January, 1907.

The Public Service

Army Changes.

Memorandum of changes of stations and duties of medical officers, U. S. Army, week ending Oct. 17, 1908:

Rand, I. W., maj., relieved from duty in the Philippines Division, in time to sail, Dec. 15, 1908, for San Francisco, Cal.

Hartnett, E. H., capt., and Love, A. G., lieut., relieved from duty in the Philippines Div., in time to sail, Jan. 15, 1908, for San Francisco, Cal.

Moncrief, W. H., capt., Huntington, P. W., capt., and Snyder, H. M., lieut., relieved from their present duties in time to sail, Dec. 5, 1908, from San Francisco, Cal., for Philippine service.

Cole, C. LeR., capt., granted leave of absence for ten days.

Brechemin, Louis, lt.-col., relieved from duty in charge of medical supply depot, New York City, and ordered to sail, Nov. 5, 1908, for Philippine service.

Blanchard, R. M., capt., ordered from Ft. Wingate, N. M., to Whipple Bks., Ariz., for duty with troops on a 21-day practice march.

Torney, G. H., col., granted leave of absence for fifteen days.

Pipes, H. F., capt., relieved from duty with Co. C., H. C., and ordered to duty at the Army General Hospital, Washington, D. C.

Adair, G. W., col., granted leave of absence for one month.

Ragan, C. A., capt., ordered to return to Ft. Monroe, Va., from treatment at Washington, D. C.

Wyeth, M. C., maj., having been found physically disqualified for the duties of lt.-col. in the Medical Corps, by reason of disability incident to the service, his retirement from active service as a lieut.-col. is announced to date from May 1, 1908.

Borden, W. C., maj., having been found physically incapacitated for active service, is ordered to his home to await retirement.

Brechemin, Louis, lieut.-col., granted leave of absence for one month, ten days; will sail from San Francisco, Cal., for the Philippines, December 5, instead of November 5.

Daywalt, G. W., M.R.C., relieved from his present duties in time to sail, Dec. 5, 1908, from San Francisco, Cal., for Philippines.

Maloney, J. E., M.R.C., assigned to active duty and ordered to Ft. Hancock, N. J., for duty.

Slayter, J. T., M.R.C., granted leave of absence for ten days.

Henry, Z. L., M.R.C., assigned to active duty and ordered to Ft. Thomas, Ky., for duty.

Lord, L. W., M.R.C., assigned to active duty and ordered to Ft. Riley, Kans., for duty.

Suggs, Frank, M.R.C., granted leave of absence for one month, about October 22.

Shepherd, J. M., M.R.C., granted an extension of one month to his leave of absence.

Ballard, J. C., M.R.C., ordered to active duty and to proceed to Ft. Sam Houston, Texas, for duty.

Leech, W. F., M.R.C., ordered to active duty and to proceed to Jefferson Bks., Mo., for duty.

Coffin, H. E., M.R.C., granted leave of absence for four months.

Voorhies, H. G., dent. surg., granted leave of absence for fifteen days.

Lauderdale, C. E., dent. surg., relieved from duty in the Philippines Div., in time to sail from Manila, Dec. 15, 1908, for the U. S.

Stallman, G. E., dent. surg., ordered from Ft. Sam Houston, Texas, to Ft. Logan H. Roots, Ark., for temporary duty.

Oliver, R. T., ex. and sup. dent. surg., ordered to New York City to inspect dental supplies.

Whinnery, J. C., dent. surg., ordered to duty successively at Ft. George Wright, Wash., Ft. Walla Walla, Wash., and Boise Bks., Idaho.

Navy Changes.

Changes in the Medical Corps, U. S. Navy, for the week ending Oct. 17, 1908:

Passed Assistant Surgeon L. W. Bishop, detached from the Naval Hospital, New York, and ordered to the Naval Recruiting Station, Omaha.

Surgeon E. M. Shipp, detached from the *Pennsylvania*, October 28, and ordered home to wait orders.

Surgeon S. G. Evans, detached from the Naval Hospital, Washington, D. C., October 17, and ordered to the *Pennsylvania*, October 28.

Assistant Surgeon M. E. Rose, detached from the Naval Recruiting Station, Omaha, and ordered to the *Hist*.

Medical Inspector J. D. Gatewood, commissioned medical inspector from Sept. 18, 1908.

Passed Assistant Surgeon P. T. Dessez, detached from duty at the Naval Hospital, Las Animas, Colo., and ordered to the *South Dakota*.

Medical Inspector O. Diehl, commissioned medical inspector from Oct. 11, 1908.

Assistant Surgeons J. A. B. Sinclair, G. B. Whitmore, R. Cutherson, D. H. Noble, appointed assistant surgeons from Oct. 12, 1908.

Surgeon C. H. T. Lowndes, detached from the *South Dakota* and ordered home to wait orders.

Public Health and Marine-Hospital Service.

List of changes of stations and duties of commissioned and other officers of the Public Health and Marine-Hospital Service for the seven days ended October 14, 1908.

Kerr, J. W., asst. surg.-general, granted 7 days' leave of absence from Oct. 11, 1908, under Paragraph 191, Service Regulations.

Ballhache, P. H., surgeon. Leave of absence for 20 days from Sept. 21 1908, amended to read 15 days from September 21, 1908.

Stoner, G. W., surgeon, granted 15 days' leave of absence from Oct. 8, 1908.

Nydegger, J. A., passed asst.-surgeon, leave of absence for 23 days from Sept. 19, 1908 amended to read 22 days from Sept. 19, 1908.

Heiser, V. G., passed asst.-surgeon, granted 30 days' leave of absence while en route to join station at Manila, P. I.

Burkhalter, J. T., passed asst.-surgeon, granted 7 days' leave of absence from Oct. 1, 1908.

Stimson, A. M., passed asst.-surgeon, directed to proceed to Santa Ana and points in vicinity of Los Angeles, Cal., on special temporary duty.

Smith, F. C., passed asst.-surgeon, granted 7 days' extension of leave of absence from Oct. 18, 1908.

Salmon, T. W., passed asst.-surgeon, directed to report to commanding officer revenue cutter *Gresham*, Oct. 19, 1908, for temporary duty.

Frost, W. H., asst.-surgeon, granted 15 days' leave of absence from Oct. 11, 1908.

Abbott, P. C., acting asst.-surgeon, granted 14 days' leave of absence from Oct. 11, 1908.

Houghton, M. W., acting asst.-surgeon, granted 9 days' leave of absence from Oct. 11, 1908.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, Public Health and Marine-Hospital Service, during the week ended Oct. 16, 1908:

SMALLPOX—UNITED STATES.

Indiana: Lafayette, Sep. 21-28, 2 cases.
Kentucky: Covington, Sept. 26-Oct. 3, 1 case.
Massachusetts: Lawrence, Sept. 12-9, 1 case.
Missouri: St. Joseph, Sept. 19-26, 1 case.
Washington: Spokane, Sept. 19-26, 2 cases (imported).
Wisconsin: La Crosse, Sept. 12-19, 1 case.

SMALLPOX—FOREIGN.

Brazil: Rio de Janeiro, Aug. 23-30, 685 cases, 294 deaths.
Canada: Halifax, Sept. 19-26, 1 case.

Ecuador: Guayaquil, Sept. 5-12, 5 deaths.
India: Bombay, Aug. 25-Sept. 1, 3 deaths.
Italy: General, Sept. 21-27, 16 cases. Naples, Sept. 20-27, 1 case.
Java: Batavia, Aug. 22-29, 2 cases.
Norway: Christiania, Sept. 5-12, 22 cases, 1 death.
Russia: Moscow, Aug. 29-Sept. 12, 42 cases, 9 deaths; St. Petersburg, Aug. 22-Sept. 5, 9 cases, 2 deaths.
Warsaw: Warsaw, Aug. 8-15, 4 deaths.
Spain: Valencia, Sept. 12-19, 1 case.
Straits Settlements: Penang, Aug. 15-22, 1 case, 1 death.
Turkey: Constantinople, Sept. 6-13, 8 deaths.

YELLOW FEVER.

Cuba: Habana, Sept. 29-Oct. 4, from S. S. *Merida*, 1 case, 1 death.
Ecuador: Guayaquil, Sept. 5-12, 1 death.
France: St. Nazaire, Oct. 7, present.
Martinique: Fort de France, Sept. 12-26, 5 cases, 3 deaths.
Mexico: Vera Cruz, Oct. 12-13, 2 cases.

CHOLERA.

India: Bombay, Aug. 25-Sept. 1, 1 death; Madras, Aug. 22-28, 71 deaths.
Japan: Moji, Sept. 2-7, 18 cases, 6 deaths; Wakamatau, Aug. 25-Sept. 7, 4 cases, 1 death.
Russia: General, to Sept. 20, 10,359 cases, 4,633 deaths; Moscow, Aug. 29-Sept. 12, 3 cases, 2 deaths; Riga, Sept. 19-26, 2 cases; St. Petersburg, to Sept. 26, 4,732 cases, 1,764 deaths.

PLAGUE.

Ecuador: Guayaquil, Sept. 5-12, 1 death.
Egypt: General, Aug. 20-Sept. 17, 39 cases, 16 deaths; Alexandria, Aug. 20-Sept. 17, 8 cases, 4 deaths.
India: General, Aug. 22-29, 1,783 cases, 1,239 deaths; Bombay, Aug. 25-Sept. 5, 28 deaths.
Indo-China: Cholen, Aug. 15-22, 20 cases, 19 deaths; Saigon, Aug. 15-22, 6 cases, 4 deaths.
Peru: Callao, Sept. 5-12, 1 case.
Venezuela: Caracas, Sept. 7-21, 4 cases, 2 deaths.

Medical Economics

Medical Legislation in Arizona.

OPERATION OF THE NATIONAL FOOD AND DRUGS ACT IN TERRITORIES.

Encouraging evidence of progress in Arizona is found in an address by Dr. C. E. Yount, of Prescott, in the September number of the *Southern California Practitioner*. Dr. Yount, who is the member of the National Legislative Council for the territory, discusses the problems of medical legislation which confront the Arizonia Medical Association. Reviewing existing legislation in the territory, he says:

The national Food and Drugs Act is in force in Arizona, but I ask you if any violations have been noted—who would note them? The statute provides that the article in question may be submitted for examination by the chief health, food and drug officers of any state and territory. . . . Has our superintendent of public health any money at his disposal for such collection of specimens? The United States Government Laboratory at Washington will make the chemical analyses, but what provision is made for the regular and systematic investigation of those foodstuffs and drugs shipped into the territory? We have an opportunity to be of great assistance to our superintendent of public health and materially to assist in broadening his sphere of usefulness.

Dr. Yount has emphasized a weakness in the present national Food and Drugs Act which can only be remedied through active cooperation on the part of the profession and the public. As soon as Arizona is admitted to statehood, she will, of course, be able to protect her citizens from food adulteration by legislative enactment, but so long as she remains a territory, her people must look to the national government for protection. If no provision has been made for pure food inspectors in the territories, this defect should be supplied at once.

TUBERCULOSIS IN ARIZONA.

Dr. Yount discusses at length the regulation of tuberculosis—a vital question in Arizona on account of the number of tubercular patients who go there in search of health. He favors a rigid system of registration of tubercular patients and disinfection of all trains or quarters occupied by them, including sleeping berths, rooms in hotels, boarding houses, etc. Regarding indigent tubercular patients, he says:

In at least three counties . . . the care of the indigent tuberculous who come to us from other states has placed on us a peculiar economic burden. . . . Restriction of immigration of the indigent tuberculous should be encouraged. If legislation to that effect, having as its object deportation, seems too harsh and altogether out of place, at least let us educate the profession to see that it were better that such cases remain at home rather than die in our ill-equipped county hospitals.

Without doubt, the flocking of large numbers of tuberculous patients to certain localities in the southwest has proved a decided tax on the charity of both physicians and the public. The facts stated by Dr. Yount should be carefully considered by physicians before advising patients who are not in easy circumstances to attempt the journey to Arizona, California or New Mexico.

Dr. Yount also calls attention to the necessity for an adequate law for the registration of births and deaths. In Arizona this seems particularly advisable, as accurate figures regarding the cause of death would be indispensable in framing a proper law for the regulation of tuberculous patients from other states, tuberculosis sanitariums, etc. A state or territory in which so many of the fatal cases of illness are imported is in all the greater need of an accurate, modern registration law.

POSTGRADUATE COURSE FOR COUNTY SOCIETIES.

DR. JOHN H. BLACKBURN, DIRECTOR.
BOWLING GREEN, KENTUCKY.

[The Director will be glad to furnish further information and literature to any county society desiring to take up the course.]

Third Month.

SECOND WEEKLY MEETING.

I. DISEASES DUE TO PROTOZOA (*Continued*).

A. MALARIAL FEVERS (*Continued*).

Diagnosis.—Technic of blood examination. Clinical diagnosis. Therapeutic test.

Treatment.—Prophylaxis, destruction of mosquito, isolation of patient, use of quinin. Medicinal treatment: quinin, effect on malarial parasite, preparations and doses, time of administration, methods of administration. Treatment of malarial cachexia, physiologic and therapeutic action of each drug.

B. AMEBIC DYSENTERY.

Etiology.—Amœba dysenteriæ, size, ectosare, endosare, nucleus, vacuoles; recognition in tissues, pus, sputum, feces; culture growth, symbiosis. History, occurrence in the United States.

Symptoms.—(1) Acute amebic dysentery: sudden onset, pain, tenesmus, bloody, mucous discharges, pulse and temperature. Course and terminations. (2) Chronic amebic dysentery: gradual onset or follows acute attack, alternating constipation and diarrhea, general symptoms.

Complications.—Hepatic abscess, hepato-pulmonary abscess, hemorrhage, perforation and peritonitis.

C. TRYPANOSOMIASIS.

Etiology.—Trypanosome, occurrence in animals, varieties, transmission by tsetse fly, occurrence in human. Symptoms. Latent period, gradual onset, trypanosome fever, emaciation, loss of strength, enlarged lymph glands and spleen, edema of feet. Association of trypanosomes with sleeping sickness.

D. TROPICAL SPLENOMEGALY.

Parasite, description, occurrence in body, distribution of disease.

2. DISEASES DUE TO CESTODES.

A. INTESTINAL CESTODES: TAPEWORMS.

1. Tænia solium, pork tapeworm. Length, head, neck, proglottides, ova, hooked embryos, cysticerci. "Measled" pork. 2. Tænia mediocanellata or saginata, beef tapeworm. Length, head, segments, ova, cysticerci. "Measled" beef. 3. Bothriocephalus latus. Diagnosis of intestinal cestodes. Treatment.

B. VISCERAL CESTODES.

1. Cysticercus cellulosæ. Due to ingestion of ova, or in subject of tænia solium; location and number of larvæ determine symptoms: 1, general; 2, cerebrospinal; 3, ocular. Difficulty of diagnosis.
2. Echinococcus Disease. Larvæ of tænia echinococcus of dog, found in hog, ox, sheep and horse. Development; ingestion of embryo, digestion of shell, burrowing of embryo into peritoneal cavity, muscles, portal or systemic vessels; at destination embryo forms cysts, parent, daughter, etc.; differs from ovum and larva of tænia solium. Contents of cysts, changes in cyst. Distribution in body: (a) Echinococcus of Liver. Large or small cysts, in right or left lobe. Symptoms and physical signs. Suppuration of cyst. Perforation. (b) Echinococcus of Respiratory System. Frequency. Echinococcus of pleura, of lung; symptoms and physical signs of each. (c) Echinococcus of Kidneys. (d) Echinococcus of Nervous System. (e) Multilocular Echinococcus.

Marriages

DAVID B. FIELDS, M.D., to Miss Nora Blaney, both of Weaverville, Cal., October 7.

HARRY GOLDBERG, M.D., to Miss Bertha Krieger, both of Baltimore, October 8.

HOWARD B. CRESSMAN, M.D., to Miss Marie L. Haas, both of Media, Pa., October 7.

JEWETT V. REED, M.D., Indianapolis, to Miss Iva Hill of Marion, Ind., October 6.

JOHN HAGAN, M.D., Bisbee, Ariz., to Miss Percy Murphy, of Prescott, Ariz., October 8.

CLARENCE W. PAGE, M.D., to Miss Julia Phillips, both of Berkeley, Cal., October 8.

MARION L. KLINEFELTER, M.D., to Miss Mary M. Gildea, both of St. Louis, September 26.

GEORGE M. RAGSDALE, M.D., to Miss Ruth Curtright, both of Paris, Mo., September 22.

JOHN HENRY BOYLES, M.D., to Miss Ruth Lee Sterne, both of Greensboro, N. C., October 7.

ERNEST FRANKLIN SMITH, M.D., to Miss Lydia Price, both of Centerville, Md., October 1.

ALBERT B. TONKIN, M.D., Riverton, Wyo., to Miss Cora Nicholson of Boulder, Colo., October 7.

CHARLES E. LITTLE, M.D., to Miss Jessie Ruble, both of Haydensville, Ohio, September 30.

JOHN WILLIAM WILSON, M.D., Orrville, Ala., to Miss Helen Meredith, of Eutaw, Ala., October 1.

CHARLES H. P. SLAUGHTER, M.D., to Miss Caroline K. McCoach, both of Philadelphia, October 15.

FAYETTE WATT BIRTCH, M.D., San Francisco, to Miss Frances Caldwell of Oakland, Cal., September 30.

GEORGE DICKINSON, M.D., Wrangel, Alaska, to BEATRICE PEARCE, M.D., of Waukegan, Ill., recently.

ROBERT M. MURRAY, M.D., to Mrs. Mattie Montgomery, both of Trezevant, Tenn., in Memphis, October 5.

STEPHEN JAMES O'BRIEN, M.D., to Miss Clara Eletha Crawford, both of Grand Marais, Mich., October 15.

MARTIN L. GRAY, M.D., La Porte, Iowa, to Miss Laura Williamson of Mount Carroll, Ill., September 30.

GEORGE MORRIS PIERSOL, M.D., Philadelphia, to Miss Helen Hodges Delano of Marion, Mass., September 26.

WILLIAM ARMISTEAD GILLS, M.D., Richmond, Va., to Miss Virginia P. Thornton, of Norfolk, Va., October 6.

FAYETTE A. SINCLAIR, M.D., Poquoson, Va., to Miss Bertie Henneberger of Hagerstown, Md., September 30.

CHARLES E. DOERR, Medical Reserve Corps, U. S. Army, to Miss Elizabeth Allison of Cincinnati, September 30.

LEONARD W. ELY, M.D., to Miss Sally Frothingham Akers, both of New York City, at Hollis, Maine, September 22.

HERMAN VEDDER MYNDERSE, M.D., Schenectady, N. Y., to Miss Helen Louise Douw of Poughkeepsie, N. Y., October 1.

JOHN W. DEVINE, M.D., Lynchburg, Va., to Miss Bessie May Files, of Augusta County, Va., at Clifton Forge, Va., October 6.

Deaths

Turner Anderson, M.D. University of Louisville, 1863; a member of the Kentucky State Medical Association and of the Mississippi Valley Medical Association; one of the most widely known practitioners of Kentucky; surgeon of the Twenty-eighth Kentucky Volunteer Infantry during the Civil War; professor of obstetrics in the Kentucky School of Medicine and Louisville Medical College; and professor of abdominal surgery in Louisville University; honorary professor of medicine in the University of Louisville; died at St. Mary and Elizabeth Hospital in that city, October 13, from heart disease, aged 66. At a meeting of the faculty of the Medical Department of the University of Louisville, held October 14, resolutions of regret and condolence were unanimously adopted.

John Eleazer Parson, M.D. Harvard Medical School, 1863; a member of the Massachusetts Medical Society; a medical officer during the Civil War; and later assistant surgeon of the Twenty-eighth Massachusetts Volunteer Infantry; and then acting assistant surgeon and acting passed assistant surgeon, U. S. Navy; for many years a member of the school committee of Ayer, Mass.; and trustee of the public library; died at his home, October 7, from brain disease, aged 72.

James S. King, M.D. Long Island College Hospital, Brooklyn, 1878; a member of the Medical Society of the State of New York; surgeon to the N. Y. Naval Reserve and one of the founders of Bushwick Hospital, Brooklyn; died at his home in that city, October 9, aged 51.

Augustus Salley Hydrick, M.D. University of South Carolina, Columbia, 1873; a member of the South Carolina Medical Association; alderman of Orangeburg, S. C., from 1896 to 1904; school trustee; died at his home from cerebral hemorrhage, October 9, aged 58.

James W. Coleman, M.D. Jefferson Medical College, 1893; a member of the American Medical Association; territorial health officer of Arizona, and formerly president of the Arizona Territorial Medical Association; died at his home in Tucson, October 4, aged 43.

Stephen G. Sanders, M.D. Atlanta (Ga.) Medical College, 1855; a member of the Kentucky State Medical Association, and one of the oldest practitioners of the mountain district of Kentucky; died from heart disease at his home in Booneville, October 3.

John Aycrigg Hegeman, M.D. College of Physicians and Surgeons, New York, 1879; a practitioner of Passaic, N. J., until 1905, when he moved to New York City; fell from a window of his apartment, September 23, and was instantly killed, aged 56.

William H. McKinnon, M.D. Bellevue Hospital Medical College, 1870; of Red Springs, N. C.; a member of the Medical Society of the State of North Carolina; died at St. Luke's Hospital, Fayetteville, N. C., September 29, from nephritis, aged 65.

Frank Campbell, M.D. Medical College of Indiana, 1895; a member of the American Medical Association and of the Shelby County (Ind.) U. S. pension examining board; died suddenly at his home in Shelbyville, October 8, from heart disease, aged 39.

John E. Summers, M.D., colonel Medical Corps, U. S. Army, retired; University of Pennsylvania, 1846; of Omaha, Neb.; who was advanced to the rank of brigadier-general in 1904; died October 1, in Atlantic City, N. J., aged 86.

Clarence Bulwer Cooke, M.D. Philadelphia University of Medicine and Surgery, 1867; for 18 years a practitioner of New Britain, Conn.; died at his home in Baltic, Conn., September 27, from pneumonia, aged 65.

James M. Taylor, M.D. Vanderbilt University, Nashville, 1889; of Ruleville, Miss.; a member of the Mississippi State Medical Association; was shot and instantly killed in an affray at Ruleville, September 28, aged 47.

Adelbert L. Fuqua, M.D. University of Nashville, 1868; of Donelson, Tenn.; a member of the Tennessee State Medical Association; a Confederate veteran; died at an infirmary in Nashville, September 27, aged 66.

George Russell Fisher, M.D. Bellevue Hospital Medical College, 1874; for several years a member of the staff of the governor of Rhode Island; died in his apartments in Olneyville, R. I., September 30, aged 55.

Edward L. Watts, M.D. Kentucky School of Medicine, Louisville, 1891; a member of the American Medical Association;

was found dead from heart disease, near his home in Triumph, Ill., October 14, aged 44.

Leonard M. Wilson, M.D. Hospital College of Medicine, Louisville, 1907; a member of the Kentucky State Medical Association; died recently at his home in Minerva, Ky., from typhoid fever, aged 29.

Henry F. Kattenhorn, M.D. Medical College of Ohio, Cincinnati, 1891; a member of the American Medical Association; died at his home in Walnut Hill, Cincinnati, October 3, from pneumonia, aged 39.

Fred Russell Chaney, M.D. University of Oregon, Portland, 1907; of Valdez, Alaska; died from the results of a fall while attempting to scale a mountain peak, near Valdez glacier, September 10, aged 23.

T. Dinsmore Ferguson, M.D. University of Tennessee, Nashville, 1884; a member of the American Medical Association; died at his home in Colfax, Wash., from heart disease, October 2, aged 52.

Elton S. Rich, M.D. New York University, 1886; formerly a member of the American Medical Association; died suddenly at his office in Kennedy, N. Y., October 7, from heart disease, aged 54.

Lassar Stern, M.D. University of Erlangen, Germany, 1852; one of the earliest members of the attending staff of the German Hospital, New York City; died at his home, October 1.

Hamilton Moore Weedon, M.D. Albany (N. Y.) Medical College, 1855; for more than 40 years a practitioner of Eufaula, Ala.; died at his home in that city, September 10, aged 74.

Otto E. Haering, M.D. Rush Medical College, 1886; a member of the Illinois State Medical Society; died at his home in Bloomington, October 10, from tuberculosis, aged 47.

Frederick Arnold Herring (license, Ind., years of practice, 1897); for more than fifty years an eclectic practitioner of Goshen, Ind.; died at his home October 1, aged 95.

Frederick Sale, M.D. Hospital College of Medicine, Louisville, 1882; a member of the Medical Society of Virginia; died at his home in Bedford City, October 3, aged 52.

Winona May Stout, M.D. Kansas Medical College, Topeka, 1906; of Topeka; a member of the local board of health; died suddenly in Denver, September 30.

John W. Whitney, M.D. Jefferson Medical College, 1852; dean of the medical profession of Lexington, Ky.; died at his home, September 29, aged 78.

Charles N. Dartt, M.D. Kansas City (Mo.) Medical College, 1882; of Kansas City; died at the home of his daughter, in Kansas City, September 28.

Elijah D. Kanouse, M.D. Cleveland Homeopathic Medical College, 1863; died from pneumonia at his home in Appleton, Wis., October 7, aged 80.

William Gordon Barton, M.D. New York University, 1858; a distinguished linguist; died at his home in Pubnico Harbor, N. S., recently, aged 88.

Austin Best, M.D. Jefferson Medical College, 1878; died at his home in Harrisburg, Pa., September 25, from cerebral hemorrhage, aged 57.

William C. Hughes, M.D. Medical College of Ohio, Cincinnati, 1870; died recently at his home in Cleves, Ohio, from acute gastritis, aged 59.

John Cramer Shiland, M.D. Albany (N. Y.) Medical College, 1878; died at his home in Watervliet, N. Y., September 24, aged 53.

John J. Clement, M.D. Toronto University; died at his home in Sarnia, Ont., September 18, from cerebral hemorrhage, aged 60.

Sharpe Field, M.D. Homeopathic Medical College of Missouri, St. Louis, 1860; died at his home in Hillsboro, Ill., September 28.

James R. Rucker, M.D. Tulane University, New Orleans, 1875; died recently at his home in Temple, Texas, aged 59.

Theodore Fisk (license, Mo., 1883); died at his home in Mooresville, Mo., October 2, from cardiac dropsy, aged 74.

G. W. Zimmerman, M.D. Medical College of Ohio, Cincinnati, 1868; died recently at his home in Woodland, Cal.

Ernest S. S. Root, M.D. Eclectic Medical Institute, Cincinnati, 1878; died recently at his home in Big Oak Flat, Cal.

Albert Andrew Herschler, M.D. University of Buffalo, 1906; died at his home in Buffalo, N. Y., October 1, aged 24.

Edwin Arthur Kelley, M.D. Medical College of Ohio, Cincinnati, 1878; died recently at Agnew, Cal.

Medical Education and State Boards of Registration

COMING EXAMINATIONS.

INDIANA Board of Medical Registration and Examination, Room 120, State House, Indianapolis, October 27. Secretary, Dr. W. T. Gott, Room 120, State House, Indianapolis.

NEVADA State Board of Medical Examiners, Carson City, November 2. Secretary, Dr. S. L. Lee, Carson City.

LOUISIANA Homeopathic Medical Board, 919 St. Charles street, New Orleans, November 2. Secretary, Dr. Gayle Aiken, 1102 St. Charles avenue, New Orleans.

NEBRASKA State Board of Health, Capitol Bldg., Lincoln, November 4-5. Secretary, Dr. E. J. C. Sward, Oakland.

OKLAHOMA State Board of Medical Examiners, Muskogee, November 6. Secretary, Dr. F. P. Davis, Enid.

RHODE ISLAND State Board of Health, State House, Providence, November 5-6. Secretary, Dr. Gardner T. Swarts, 315 State House, Providence.

TEXAS State Board of Medical Examiners, Houston, November 10. Secretary, Dr. M. E. Daniel, Honey Grove.

CONNECTICUT Homeopathic Medical Board, New Haven, November 10. Secretary, Dr. Edwin C. M. Hall, 82 Grand avenue, New Haven.

CONNECTICUT Eclectic Medical Board, Hotel Garde, New Haven, November 10. Secretary, Dr. T. S. Dodge, Torrington.

CONNECTICUT State Medical Examining Board, City Hall, New Haven, November 10-11. Secretary, Dr. Charles A. Tuttle, 196 York street, New Haven.

MAINE Board of Registration of Medicine, Preble House, Portland, November 10-11. Secretary, Dr. William J. Maybury, Saco.

FLORIDA Regular Board of Medical Examiners, Jacksonville, November 11-12. Dr. J. D. Fernandez, Jacksonville.

WEST VIRGINIA State Board of Health, Wheeling, November 10-12 Secretary, Dr. H. A. Barbee, Point Pleasant.

MISSOURI State Board of Health, Kansas City, November 23-25. Secretary, Dr. J. A. B. Adcock, Warrensburg.

MASSACHUSETTS Board of Registration in Medicine, State House, Boston, November 10-12. Secretary, Dr. Edwin B. Harvey, Room 159, State House, Boston.

The Teaching of Modern Anatomy.

At the recent meeting of the British Medical Association, in a discussion on the teaching of anatomy, Christopher Addison called attention to the just complaints that experts are prone to exaggerate the importance of their own specialties, and said that, although anatomy was an intrinsic part of medical education, teachers should bear in mind the great mass of information which the student must acquire in the other subjects of the curriculum. He showed how anatomy peculiarly lends itself to the vicious system of cramming which makes the knowledge thus gained less serviceable and lasting as well as of less educational value. The student should be guarded against unnecessary detail, and more attention should be paid to the function of the part studied in its relation to health and disease. Addison stated that the most lasting, valuable and accurate knowledge was that obtained by critical examinations, on one's own initiative, and that a real familiarity with the parts of the body could best be acquired by the student by the intelligent dissection of those parts for himself.

He suggests that the muscles be studied in groups, rather than individually, and that, in the study of the vascular and nervous systems and the viscera, the teacher should call particular attention to their pathologic and clinical relations. Special attention was directed to the value of preliminary training in physics, chemistry and biology in the statement: "It is a striking and significant fact that the preliminary medical sciences enter so largely into many of the great medical discoveries of our time in bacteriology, pathologic chemistry, malaria, yellow fever, Malta fever, sleeping sickness and others." And in the teaching of anatomy much valuable time is saved and a much better knowledge of anatomy is secured by the student if he begins with an acquaintance with elementary animal and vegetable physiology and structure such as is obtained in the preliminary course in biology.

Kentucky July and August Reports.

Dr. J. N. McCormack, secretary of the State Board of Health of Kentucky, reports the written examination held at Louisville, July 7-10, and Aug. 3-5, 1908. The number of subjects examined in was 10; percentage required to pass, 70, and not less than 60 in any one branch.

At the examination held July 7-10 the total number of candidates examined was 61, of whom 37 passed and 24 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Louisville Med. Coll.	(1907)	73, 87
Kentucky School of Med.	(1908) 75, 76, 81, 81, 82, 83, 86, 87, 88, 89	
University of Louisville.	(1908) 72, 75, 77, 78, 81, 82, 82, 83, 87, 88	
University of Maryland	(1907)	76
University of Michigan	(1908)	73
College of P. and S., New York	(1905)	81
Medical Coll. of Ohio	(1907) 84; (1908)	79, 88
Eclectic Med. Inst., Cincinnati	(1908)	77, 77
Pulte Med. Coll.	(1907)	79
Meharry Med. Coll.	(1907)	71
University of Tennessee	(1907)	80
Vanderbilt University	(1882) 73; (1908)	71, 71, 75

FAILED.	
University of Louisville, (1908) 54, 58, 58, 60, 61, 63, 64, 67, 69, 70,* 70,* 76,* 77.*	
Kentucky School of Med.	(1908) 57, 60
Louisville National Med. Coll.	(1908) 46, 65
Hospital Coll. of Med., Louisville	(1907) 61†
Eclectic Med. Inst., Cincinnati	(1908) 67
Meharry Med. Coll.	(1908) 39, 50, 55
University of Tennessee	(1908) 50
Trinity College, Dublin, Ireland	(1854) 12

At the examination held August 3-5, the total number of candidates examined was 80, of whom 51 passed and 29 failed. The following colleges were represented:

PASSED. College.	Year Grad.	Per Cent.
Illinois Med. Coll.	(1908)	81
Louisville and Hosp. Med. Coll.,	(1908) 70, 70, 71, 73, 73, 75, 75, 76, 77, 77, 77, 77, 78, 79, 80, 81, 82, 82, 82, 83, 83, 83, 83, 84, 85, 86, 87, 87, 88, 89.	
University of Louisville,	(1905) 78; (1907) 87; (1908) 71, 74, 74, 77, 77, 77, 77, 84.	
Louisville Med. Coll.	(1907)	71, 85
Hospital Coll. of Med., Louisville	(1907)	90
Kentucky School of Med.	(1907) 82; (1908)	82
University of Michigan	(1908)	89
Miami Med. Coll.	(1908)	82
Eclectic Med. Inst., Cincinnati	(1908)	76

FAILED.	
University of Louisville, (1895) 71;* (1908) 50, 57, 60,** 63,** 64, 67, 68.**	
Louisville and Hosp. Med. Coll.,	(1908) 53, 55, 56, 57, 57, 57, 59, 68, 68, 69, 69, 70,* 70,* 75.*
Louisville National Med. Coll.	(1908) 51,** 69**
Kentucky School of Med.	(1908) 59
Barnes Med. Coll.	(1904) 70* **
University of Nashville	(1908) 70*
Meharry Med. Coll.	(1908) 58, 69

* Failed to make 60 in one or more branches.
** Second examination.
† Third examination.

Book Notices

FRIEDBERGER AND FRÖHNER'S VETERINARY PATHOLOGY. Vols. I and II. Translated by M. H. Hayes, F.R.C.V.S., Author of "Points of the Horse," etc. With notes on Bacteriology by Professor R. Tanner Hewlett, M.D., F.R.C.P., M.R.C.S., D.P.H. Sixth Edition. Cloth. Price, $8.00 per set. Chicago: W. T. Keener & Co., 1908.

The more we investigate diseases in lower animals the more closely we find them related to diseases in man. Many contagious diseases are suspected of being transmitted by domestic animals. Animal parasites commonly have for host during part of their life cycle some lower animal; and possibly certain acute diseases of unknown etiology are perpetuated by existence in animal hosts at times when human hosts are not available. Recent developments in regard to transmission of disease by insects, and also the current investigations on tumor biology which are being carried out with tumors in the lower animals, have caused pathologists to take a more active interest in veterinary medicine than ever before, and constantly to need books of reference on this subject. The book at hand is a good translation of a standard text-book on the pathology of domestic mammals, and undoubtedly has much merit for the use of veterinary students, as attested by the number of editions it has passed through both in German and in English. Its value as a work of reference for use by students and investigators who are not veterinarians, however, would be increased many times if it were provided with a well-selected bibliography. A reference-book at the best serves chiefly an an explanatory index and a critical review of progress in the lines it covers, and such a work in veterinary pathology would be welcomed. The entire absence of illustrations is also a serious defect in this work, which is, in spite of these drawbacks, a valuable compend of the subject.

NUOVA CLASSIFICAZIONE DEI DELINQUENTI. By Dott. José Ingegnieros, Professor all' Università di Buenos Aires. Pp. 48. Paper. Milano-Palermo-Napoli: Remo Sandron, 1907.

This book is an exposition of the modern materialistic theory of criminality, which rejects the conception of free will and responsibility. Its psychopathologic classification divides criminals into those with moral anomalies (dysthymia), including the morally insane, the habitual criminals and the criminaloids; those with intellectual deficiencies (dysnossia), the congenitally defective and the criminals with acquired insanity, the transitory criminals from intoxication or toxic delirium; those with volitional defects (dysbulia), including the impulsive, epileptic, the alcoholic and the occasional passional criminals. There appears to be little that is actually new in this classification; the most striking feature of the work is the logical application of it made by Dr. Ingegnieros in his ideas of the application of repressive measures. The maximum of these, according to his program, should be applied to the congenital and acquired incurable forms, to the morally insane, the insane with fixed criminal tendencies, the criminal epileptics, chronic alcoholic cases, and those with persistent incurable criminal tendencies. This plan, carried out logically, would rid society of all its troublesome incurables with criminal tendencies. Dr. Ingegnieros, however, admits that positivist criminologists are not unanimous as regards the infliction of the death penalty.

DIE PANIK IM KRIEGE. By Oberst a. D. Emil Pfülf. Paper. Pp. 71. Price 30 cts. München: Verlag der Aerztlichen Rundschau, 1908.

The psychology of masses of men is a subject that has at least a collateral medical interest, and an army is, in a sense, a crowd, though an organized and disciplined one. Colonel Pfülf shows by numerous historical instances that even the most thorough training to meet the varied exigencies of war does not always prevent panics, even in the best disciplined troops. There are, it is true, fewer panics in disciplined or veteran armies, even when the stimulus of success is wanting; but there are occasions when, under special mental and physical stress, especially when confidence in their leaders is lacking, that the most experienced soldiers may give way. The commanders as well as the men may be demoralized, as witness the striking instance of the Russian fleet in the North Sea, 20,000 sea miles from any opposing forces. The remedy he sees only in a rigid discipline, confidence in the commanders and the cause, a building up of a sound nervous organization and of the better moral qualities of the soldier, not in brutalizing him or making him a mere reflex machine. The brochure is rather interesting as a collection of historical instances of notable panics, and what one might call moral paralysis in military operations, discussed by an expert. It will take its place in the rather limited special literature of what is in many ways an important subject.

PULSATING EXOPHTHALMOS. By George E. de Schweinitz, M.D., Professor of Ophthalmology in the University of Pennsylvania, and Thomas B. Holloway, M.D., Instructor in Ophthalmology in the University of Pennsylvania. Cloth. Pp. 124. Price, $2.00. Philadelphia: W. B. Saunders Co., 1908.

This monograph is an elaboration of a paper read before the College of Physicians, Philadelphia, a year ago. The literature on the subject is thoroughly reviewed and an extensive table is embodied in the text, giving a study of 80 recent cases from 1900 to 1907. This table gives the name of the reporter, the reference, the eye, sex, age and symptoms, treatment and conditions following treatment. The text proper consists of a close analysis of 69 undoubted cases. These are discussed as to etiology, symptoms, pathogenesis diagnosis and differential diagnosis, prognosis and treatment. Under the last heading are included descriptions of the various orbital operations employed in these cases with various methods of treatment such as ligation and compression of the carotids. This essay deals essentially with the practical side of pulsating exophthalmos, giving the reader a grasp of the entire situation. It should be a great aid to all of us in dealing with this difficult condition.

POINTS OF PRACTICE IN MALADIES OF THE HEART. By James Sawyer, Knt., M.D. Lond., F.R.C.P., F.R.S., Ed., F. S. A., Consulting Physician to Queen's College. Cloth. Pp. 96. Birmingham, Eng.: Cornish Brothers, 1908.

The title of these three lectures describes their character. Maladies of the heart are not described systematically nor is

any one malady discussed with any degree of fulness. The first lecture is devoted to a brief and rather superficial history of our knowledge of heart diseases and methods of investigating them. In the second the signs elicited by physical examination are commented on. Considerable space is devoted to the visible signs of pericardial adhesions and the way of best observing them. Sawyer has seen that those suffering from chronic heart disease with feeble ventricular contractions can hold their breath while lying in bed longer than those in health; and he illustrates how this may be used as a sign or test of weakness of the heart's muscle. In the first part of the third lecture a general classification of heart disorders is described and in the remainder points in the treatment thereof are considered.

ABDOMINAL TUBERCULOSIS. By A. Earnest Maylard, M.B., B.S. (Lond.). Surgeon to the Victoria Infirmary, Glasgow. Pp. 360, with illustrations. Cloth. Price, $4.00. Philadelphia: P. Blakiston's Son & Co., 1908.

The tendency of English surgeons toward the monograph form of presenting a subject is one which should be more frequently followed. The present monograph on the very important subject of abdominal tuberculosis covers the field in a most thorough manner. Maylard has drawn largely on the London museums for his illustrations of specimens. Tuberculosis of the various abdominal viscera are considered in a systematic manner. A number of typical cases collected from the records of the Victoria Infirmary, Glasgow, and the general literature are included in each chapter and add to the interest. It is to be regretted that tuberculosis of the kidney was not included in the monograph. The closing chapter by Dr. W. K. Hunter on the general and prophylactic treatment does not devote sufficient space to the value of the opsonic index as a means of diagnosis nor is the description of the use of vaccines as thorough as the present state of the subject deserves.

THE TEACHINGS OF THOMAS HENRY HUXLEY. By Irving Wilson Voorhees, M.S., M.D. Cloth. Pp. 85. New York: Broadway Pub. Co., 1907.

This is a small book—only 85 pages—but large enough to contain a pretty fair analysis of the views of Huxley on the various subjects in which he became interested during his busy life. While he is not so well known for what he did in medicine, he left his mark even here. When only 19 he described the microscopic anatomy of a layer of cells in the hair follicle, which is still known as Huxley's layer. It is to be regretted that he wandered off into other sciences, for one with so broad a mind and such a love of research and investigation would surely have accomplished much for medicine if he had continued in it. Dr. Voorhees has given us, as it were, an abstract, or better, an analysis, of Huxley's views on biology, theology, education, morals, sociology, etc. To him who is acquainted with Huxley, his work and his writings, this little book will be a pleasant review to call to mind what may have been practically forgotten. To him who has never read Huxley's work, it will be a stimulus to do so.

HAY-FEVER, HAY-ASTHMA, ITS CAUSES, DIAGNOSIS AND TREATMENT. By William Lloyd, Surgeon-in-charge of the Nose, Ear and Throat Department, Kensington General Hospital. Cloth. Pp. 98, with illustrations. Price $1.25. London: H. J. Glaisher, 1908.

While this is a book of less than 100 pages, it contains a good survey of our present knowledge of hay fever. The etiology, pathology, etc., are treated historically in their respective chapters, the author showing a very complete knowledge of the literature on the subject. American readers, however, will be surprised to learn that "in America the illness stops with most patients about the middle of July, but with a few it continues to the middle or end of September or even longer." We fear that there are few cases in which the illness stops at the middle of July; in the majority it continues "to the middle or end of September, or even longer." The chapter devoted to treatment contains the various methods of treatment now in use, few of which will be new to American practitioners. Dr. Lloyd has had considerable success with the use of strong coffee given hot on an empty stomach, without sugar or milk. Given after a meal, however, Dr. Lloyd says that it is liable to be more harmful than otherwise. A large number of illustrative case reports are given, which are very instructive.

Society Proceedings

AMERICAN HOSPITAL ASSOCIATION.

Tenth Annual Meeting, held at Toronto, Oct. 1-2, 1908.

The President, DR. S. S. GOLDWATER, New York City, in the Chair.

President's Address.

DR. S. S. GOLDWATER, Mount Sinai Hospital, New York: The membership has doubled in a single year. The Association gives to each of its members an opportunity to come into contact with the guiding minds of about 400 institutions. The organization could be modified to provide for a central body and a series of working sections, as, for instance, a section on general administration, a section on medical administration, and one on external administration.

Address of Welcome.

Acting Mayor Dr. Harrison, Toronto, welcomed the delegates and visitors and suggested that similar associations be formed in every state and province which would send representatives to the general sessions.

Training Schools for Nurses.

The problem of training nurses and the requirements and the course of training occupied the entire afternoon session of the opening day. Several papers were contributed on this subject, and at the conclusion of the discussion Dr. A. S. Kavanagh, of the Methodist Episcopal Hospital, Brooklyn, presented the following resolution:

Resolved, That a committee be appointed consisting of seven members of this organization, two nurses, two physicians and two laymen and the president, whose duty it shall be to seek information from leading physicians, surgeons, nurses and training-school committees, and other available sources, bearing on the curriculum and length of the course of training of our nurses; to consider to what extent hospitals should undertake to prepare a class of hospital nurses or assistants and to report on the advisability of cooperating with such associations as the Young Women's Christian Association in the work; to present a model curriculum containing only such subjects as they think necessary for the proper training of a regular nurse or a nurse helper, and to report at the next annual meeting of the Association.

The sum of $500 was set aside toward the expenses of this committee.

A Layman's View of Hospital Work.

MR. JOHN ROSS ROBERTSON, chairman of the trustees of the Hospital for Sick Children, Toronto: During the past thirty years hundreds of thousands of dollars have been received from voluntary subscriptions for the Hospital for Sick Children, and these came from the many and in small sums rather than from the monied classes, although the hospital once received a single donation of $10,000. In my opinion, the millionaire and his money are not easily parted.

Some Scientific Aspects of Hospital Management.

DR. JOHN A. HORNSBY, Michael Reese Hospital, Chicago: The two important factors in the hospital world are the doctor and the patient, nurses and attendants being at the hands of the physician.

Applications for Membership.

The membership committee reported that 238 applications had been received during the course of the year, of which 65 were from trustees and members of hospital boards. The State of New York headed the list, with 65 applications, while Canada was credited with 25. The membership is approaching the 500 mark.

The Private Hospital as a Municipal Agent.

DR. D. C. POTTER, chief of the charitable division, department of finance, New York City: My experience in New York City gives me little faith in the average reformer. I consider that this individual is always on hand to turn the grafter out in order that he may get the job for himself. There is woe in that hospital where this reformer establishes himself to administer its affairs economically. For years Canada has sent us a large proportion of all the trained nurses educated in the training schools of New York City. I consider them splendid types of young womanhood; they become the best of good nurses. I suggest that Canada might send a few reformers.

Control of Infectious and Contagious Diseases.

MR. JOHN ROSS ROBERTSON, Toronto: Since 1892 infection brought into the institution by people visiting the patients has cost the Hospital for Sick Children, Toronto, between $15,000 and $20,000.

Several of the delegates corroborated this, stating they had had similar experiences in their institutions.

Methods of Teaching.

The report of the subcommittee on medical organization and medical education stated that the long-distance principle of giving instructions had been replaced by teaching at the bedside of patients and in the surgery.

Election of Officers.

The next conference will be held in Washington, D. C., Sept. 22-29, 1909, with the following officers: President, Dr. John M. Peters, Rhode Island Hospital, Providence, R. I.; vice-presidents, Dr. Arthur A. Aucker, City and County Hospital, St. Paul, Minn; Dr. J. N. E. Brown, superintendent, Toronto General Hospital, Toronto; Miss Emma Blunderson, New England Baptist Hospital, Boston; secretary, Dr. W. L. Babcock, Grace Hospital, Detroit; treasurer, Dr. Asa Bacon, Presbyterian Hospital, Chicago.

Dr. Donald McIntosh, of the Western Infirmary, Glasgow, Scotland, who is making a tour of the hospitals of Canada and the United States, was made an honorary member of the Association.

INTERNATIONAL CONGRESS ON TUBERCULOSIS.

Held at Washington, D. C., Sept. 28 to Oct. 3, 1908.

(Continued from page 1370.)

SECTION I.—PATHOLOGY AND BACTERIOLOGY.

Tuberculo-Toxoidin and Immunization Serum.

DR. T. ISHIGAMI, Osaka, Japan, read a paper on this subject, in which he said that, after investigation for more than ten years, he has succeeded in getting two remedies of comparatively great efficacy and free from any detrimental reaction:

The one is a chemical preparation from tubercle bacilli and is applicable to incipient and feverless patients. The other is an immunization serum and is applicable chiefly to patients in an advanced stage of the disease. Tuberculo-toxoidin, the first, is a preparation made by chemically dissolving the tubercle bacilli and transforming the toxic property, thus getting rid of the reaction which is the common detriment of all the other preparations from tubercle bacilli. From my experience and the reports of other practitioners who tried the preparation the following conclusions may be drawn: (1) By injecting the preparation in a gradually increasing dose to feverless tuberculous patients, almost every one of them increases in bodily weight and vital capacity and becomes conscious of the alleviation of the symptoms. (2) The bacilli in the sputum are gradually broken up and agglutinated and finally disappear, although in some rare cases a small amount of expectoration containing bacilli is found for a long time. (3) The quantity of opsonin in the patients' blood is found to increase gradually by the injection treatment.

Immunity Production by Inoculation of Increasing Numbers of Bacteria.

PROF. M. A. BARBER, University of Kansas, DR. W. W. WILLIAMS and DR. GERALD B. WEBB, Colorado Springs, contributed a joint paper on this subject:

The possibility of producing freedom from disease or immunity by the inoculation of living organisms till now only has been accomplished in few diseases, chiefly smallpox. The virus of this disease, weakened by passage through the cow, can safely be inoculated into human beings, resulting in protection against smallpox. The human race possesses in a varying amount a natural immunity against tuberculosis; were it not so the race would long ago have become extinct. Artificial protection against tuberculosis has never yet been achieved, but we believe that it is a possibility, inasmuch as it is now possible, by protective inoculation of living organisms of the human type, to protect cattle from tuberculosis. All conceivable methods of weakening the tubercle bacillus, so that it can be safely inoculated for the production of immunity up to this time have failed. Trudeau has shown it possible to produce a certain amount of immunity in guinea-pigs by the use of living bacteria. Dead tubercle bacilli and their products, known as vaccines and tuberculins, when used for inoculations have failed to produce lasting immunity, although of distinct value in the treatment of tuberculosis. Satisfactory immunity to tuberculosis has only been obtained experimentally by the use of living bacilli. Any successful method of producing freedom from tuberculosis must be sought through the use of the living germ. Realizing the hitherto almost futile attempts, we were led to the experiments of attempting the production of immunity by increasing numbers of bacteria, by beginning with the inoculation of one living germ. The idea was first carried out with mice and anthrax germs. It has been found that one twenty-millionth part of a drop of broth in which anthrax germs were growing, if inoculated into a mouse, would kill the little animal in forty-eight hours. This knowledge renders it evident how exceedingly vulnerable mice are to the disease. The anthrax germ grows in threads. One short thread was injected under the skin of a mouse, and at intervals of a few days increasing numbers of threads up to several hundreds were inoculated, and failed to produce any signs of disease. One mouse, receiving 250 threads without any previous inoculation, died of anthrax in a few days. These experiments were conducted on a series of about thirty mice. Encouraged by these results, guinea-pigs, animals easily rendered victims of tuberculosis, were inoculated in a similar manner with the germ of tuberculosis. About forty guinea-pigs have received inoculations, beginning with one live tubercle bacillus and increasing to thousands; so far none has become a victim of tuberculosis. To ascertain any therapeutic value of this theory, rabbits rendered tuberculous by feeding on living bacilli are undergoing similar inoculation for their cure.

Immunization Against Tuberculosis.

DRS. A. CALMETTE and C. GUÉRIN, Pasteur Institute, Lille: We have shown by previous papers that animals vaccinated by this method continue for about three months to harbor in their mesenteric glands living virulent bacilli capable of infecting guinea-pigs injected with a triturate prepared from these glands. Later the animals get rid of the bacilli, which are no longer found after an interval of four to six months. If at this time they are tested by means of intravenous inoculations with a strong dose of virulent bovine bacilli (5 milligrams) at the same time with control animals of the same age, it is found that the controls always develop an excessively rapid granular tuberculosis which proves fatal in from four to six weeks, while the vaccinated animals maintain every appearance of perfect health for at least eight months. Then all at once their immunity disappears, as shown by the fact that some of them suddenly present tuberculous lesions in various locations; and if those which do not as yet show any lesions are killed it is found that the mediastinal and bronchial glands always contain living bacilli that are virulent for the guinea-pig, even though there may be no other microscopic tuberculous lesions. It is evident, therefore, that bacilli introduced into the veins, even in vaccinated animals, are not absorbed, and this fact explains why cattle vaccinated by von Behring's method continue for many months to harbor living virulent bacilli in their bronchial and mediastinal glands. So long as these animals continue to harbor bacilli they can not be considered to be really vaccinated. They merely possess a special resistance against fresh tuberculous infections, a resistance which is in every respect comparable to that which Robert Koch first observed in tuberculous guinea-pigs that had received a subcutaneous injection of a fresh dose of virus. The second inoculation produces a local abscess which soon empties itself, and the ulceration which follows heals, while the first infection continues to produce its effect more slowly. The same resistance can be obtained by injecting healthy cattle intravenously with large doses of tuberculin (0 grain 0.50 of tuberculin precipitated with alcohol), two or three times at intervals of six or ten days. Animals prepared in this way react to the second or third injection as if they were tuber-

culous. The reaction, which is always marked, appears in such animals in five hours and disappears at the end of twelve hours. If, a few days after the last injection of tuberculin, an intravenous injection of 5 milligrams of virulent bovine bacilli is administered, and healthy control animals are simultaneously subjected to the same treatment, the controls develop a very rapid granular tuberculosis which proves fatal in from five to six weeks, while animals prepared by previous injections of tuberculin merely present slowly progressing tuberculous lesions. A local suppurative tuberculosis occurring in a consumptive improves the patient's condition and considerably increases his resistance; conversely, persons in whom pulmonary tuberculosis follows a rapid course have rarely suffered in their previous history from suppuration of glands, bones or cutaneous structures, except those persons in whom an ill-advised surgical operation may have produced a blood infection. When it is recalled that certain clinicians state that they have obtained genuine improvement in tuberculous patients by a subcutaneous inoculation of cultures of virulent bovine bacilli, or dead bacilli, or of cultures of human bacilli modified by being passed through the body of a cold-blooded animal (crocodile), these facts are calculated, to a certain extent, to justify their assertions. Such treatmept is, however, to be condemned, particularly since we possess in tuberculin an equally efficient and less dangerous remedy wherewith the same object may be obtained.

Problem of Immunity in Tuberculosis.

DR. EDWARD R. BALDWIN, Saranac Lake, N. Y., gave a retrospect of what has been accomplished in attempts to produce artificial immunity, with mention of the problems yet unsolved:

A brief review traces the beginning of preventive inoculation experiments almost from the time of the discovery of the bacillus by Koch. These naturally began in France, stimulated by the brilliant success of Pasteur in the use of attennated bacteria. This principle is still foremost in present-day experiments. It is not generally known that Americans were among the earliest to achieve a degree of success, especially Trudeau and de Schweinitz (1892-94). The results, on the whole, were discouraging, and attention was directed to attempts at antitoxic immunity during the period of this important discovery and the first tuberculin era. The soluble extractives of tubercle bacilli having failed to immunize animals, Koch introduced the emulsions or new tuberculins, T. R. and B. E., which were partially successful. The discovery of differences in virulence between typical human and bovine types of bacilli by Theobald Smith gave an impetus to investigations of protective inoculations in cattle; while the study of various pseudotubercle bacilli and those modified by passage through reptilians renewed the hope for a successful method for the production of artificial immunity. Simultaneous experiments on bovine protection by human bacilli were made in several countries, all resulting in a marked degree of resistance to inoculation. To overcome the objections due to the use of living human bacilli and to apply the principle of immunization to human beings was the next obvious step. Hope of this achievement was held out by von Behring at the congress at Paris in 1905. Nothing definite has been made public since then to indicate that this hope was justified, or that the immunizing and therapeutic properties of the so-called "Tulase" was superior to the bacillary preparation T. R. of Koch introduced a decade ago. Meanwhile other investigators have worked with encouraging success on cattle by spacing the inoculations at shorter or longer intervals (Pearson and Gilliland), by feeding the vaccine (Calmette and Guérin), with bacilli in capsules (Heymanns) and with those made nonvirulent or modified by passage through other species of animals (Klimmer). This is the trend of research to-day for bovine immunization. The situation now is not hopeful for the establishment of a long-continued immunity by any method either in cattle or man. The specific resistance of cattle after one or two inoculations of human bacilli wanes and fails entirely after from six months to two years. Furthermore, living human bacilli may be retained in the tissues or excreted in the milk of protected cows many months after inoculation (Schroeder and Cotton; Weber and Titze).

Subcutaneous injections have been claimed to give equally as strong protection to cattle as the intravenous method, but the danger of local abscess formation must be overcome. The subtle difference between the immunizing value of living and dead bacilli needs investigation. So far no method has appeared equal in value to the inoculation of living bacilli. Repeated protective treatment must be considered necessary from the present outlook and by means of an agent equally innocuous to cattle and mankind. Protection from tuberculous infection must also be insured during a period of time needed for developing the specific resistance after the first treatment, at least in young subjects. It appears desirable also that all avenues of infection should be subjected to local immunization, as, for example, by feeding and inhalation of the protective agent. The finer mechanism of immunity requires close study to adjust the dosage and intervals. Some way of measuring immunity is needed. A correct balance must be attained between the specific response to infection which occurs during the hypersensitive phase of immunity and the ability of the tissues to assimilate the poisons without suffering harm. An immunity which tends only to arrest the infection but not to overcome it is not wholly beneficial when it creates ulceration at the portal of entrance. Hence the question whether hypersensitiveness artificially induced by protective inoculations is beneficent or otherwise must be considered. It is conceivable that an immunity without tuberculin susceptibility may be defective; on the other hand, complete tolerance to tuberculin may be associated with a high resistance to infection in cattle. The problem thus seems to be to create tolerance for the bacillus poisons or their products when undergoing lysis, and their assimilation by the tissues. Without the unknown quantity called "tolerance" no real immunity can exist; and the earlier in life this can be established with absolute safety the more resistant the adult must become. Light may come from investigations now in progress on the mechanism of anaphylaxis and its prevention. Finally, the problem of passive immunity is still a distant goal which should not be forgotten. On this rests the hope of an efficient therapy.

Experiments in Immunization Against Tuberculosis.

DR. J. BARTEL, Vienna: The behavior of tubercle bacilli that have entered the body through natural channels indicates a protective action on the part of the cells of organs, and especially of lymphocytes, against the infection. *In vitro* it is possible, with the aid of various organs, especially organs of a lymphocytic nature, to render living tubercle bacilli avirulent by confining them for some time within the organs at a temperature of 38 degrees. This is true of human as well as of bovine bacilli. In the course of attempts to produce immunity on this principle, animals have been successfully immunized against an infection which proved fatal to the control animals. Hence the attempt to utilize this action of the tissues of organs on the tubercle bacillus as the basis of immunization against tuberculosis has proved successful.

Tuberculosis Immunity.

DRS. JULES COURMONT and A. LESIEUR, Lyons: The reinoculation of tuberculosis at another point on the body of an animal which is already tuberculous may give a positive or a negative result. We have tested this question on the guinea-pig, using very virulent cultures of bovine bacilli with the transcutaneous method of inoculation. Favorable conditions are found in the slowness of the process, the insignificance or absence of local lesions, and the magnitude of the caseous glands. If a guinea-pig which has been tuberculous for from thirteen to twenty days is inoculated under the skin, the glandular reaction is feebler than in control animals; but these results of subcutaneous inoculation are not conclusive. The results are very clearly defined when two successive transcutaneous inoculations are made at intervals of at least two weeks. This is accomplished by simply rubbing the culture on the skin. The reinoculation is negative. No local lesion whatever is produced; the glands do not become tuberculous; they scarcely hypertrophy and are never caseous. No general effect is produced either in the spleen or elsewhere. On the other hand, if the animals are allowed to live, the first inocula-

tion runs its normal course; it is accompanied by general lesions and ultimately kills the animal. This proves that a lesion in process of evolution prevents the evolution of a second inoculation. Our experiments suggest the following question: Is a tuberculous human being during the period of evolution immune to reinfection?

Hereditary Disposition as a Factor in the Etiology of Tuberculosis.

DR. JOHANN VON SZABÓKY, Budapest, announced the following results of statistics which he collected from 1,456 tuberculous and from 1,433 non-tuberculous cases:

1. The danger of infection should be recognized and every prophylactic measure hailed with joy, but the danger of infection should not be overestimated nor should the oft-recurring phthisiophobia be magnified by excessive precautions.
2. The importance of hereditary as well as acquired disposition must be recognized.
3. The greatest rate of percentage was shown by those with an inherited taint, about one-half on the father's and one-half on the mother's side. In only one-third of the cases tuberculosis showed itself in the parents before the birth of their children. A smaller percentage showed tuberculosis in the grandparents and in the smallest percentage of the cases tuberculosis in brothers or sisters was noted.
4. The phthisical habit can not be designated as a characteristic of tuberculosis nor of hereditary disposition, although it occurs chiefly in hereditary cases, less often in acquired ones, and almost never in non-tuberculous individuals.
5. Hereditary disposition exerted no influence on the gravity of the cases, except when the taint was inherited from various collateral relatives when the disease ran a severe course.
6. The inherited taint occurred relatively as often in older as in younger patients.
7. I was very rarely able to verify the Brehmer law.

Tuberculins and the Measure of Their Activity.

PROF. A. CALMETTE, Pasteur Institute, Lille: After numerous experiments I finally prepared for therapeutic use a particularly active and relatively pure tuberculin called tuberculin CL, which can be introduced intravenously into the body of a healthy animal in large doses without producing any elevation of temperature, which is quite impossible with any of the other tuberculins. As much as 50 centigrams may be injected at a single dose into the jugular vein of a healthy animal of the bovine species without producing any reaction; on the other hand, if the same injection, in the same dosage, is repeated three times, at intervals of from six to ten days, the animal is observed in from five to twelve hours after the third injection to react by a rise of 1.8 to 2.5 degrees of temperature, just as if it were tuberculous; and what is then more interesting, the animal evidently acquires a high degree of resistance to artificial tuberculous infections. The intravenous injection of a dose of virulent bovine tubercle bacilli, sufficient to produce without fail an acute fatal miliary tuberculosis in control animals, in from four to six weeks, merely produces in an animal prepared by previous injections of tuberculin, a chronic and slowly progressing tuberculosis. This tuberculin is obtained by centrifuging *in vacuo*, and at a lower temperature, entire cultures of the bovine bacillus. The product is then filtered in order to separate the bodies of the microbes, precipitated three times with alcohol and ether, redissolved in water and dialized until all the precipitants and salts have been completely eliminated. The colloid substances which remain on the dializer are then precipitated once more with alcohol and ether and dried *in vacuo*. Hence the active substance is not modified by being subjected to heat or any other chemical treatment except precipitation with alcohol and ether, and its activity can be determined by comparing it with the other tuberculins, or with a high degree of accuracy by the method of direct inoculation into the brain of a healthy guinea-pig, which was recommended by von Lingelsheim. This tuberculin CL is well borne by tuberculous patients. Physicians who have experimented with it in hospitals and sanitariums according to my directions have obtained excellent results. It does not cure tuberculosis any more than does any other tuberculin, but it evidently delays the progress of the disease and endows the organism with resistance to the infection. In order to obtain the best results, very small doses, one-thousandth of a milligram, should be employed at first, and the dose gradually increased by fractions to one- to three-thousandths, hundredths, and tenths of a milligram—administering the injections at intervals of from ten to twelve days, in order rigorously to avoid a reaction of more than one-half degree centigrade. At the same time an effort should be made to maintain a constant increase of the opsonic index over the index of the previous injection; or at least to maintain it at the same level. By measuring the patient's opsonic index it is possible to follow accurately the gradual rise of the defensive processes of the organism. An experimental study of tuberculin prepared according to the above directions shows that the substance *in vitro* possesses an affinity for the lipoids (probably identical with lecithin), which are almost constantly contained in the serum of tuberculous human beings and cattle.

Its systematic employment enables the clinician to observe the effects of tuberculin medication accurately—a thing which until recently has been exceedingly difficult or impossible.

Treatment of Pulmonary Tuberculosis with Tuberculinum Purum.

DR. GABRILOWITSCH, Halila, Finland: The process of repair under the influence of tuberculinum purum may be clearly followed clinically. Often, one gains the impression that a temporary aggravation of the local process takes place at first. The catarrhal symptoms become more pronounced and the number of bacilli increases in the expectoration. The diminished or roughened respiratory murmur becomes bronchial in character; the bronchial breathing becomes amphoric. But these symptoms disappear as rapidly as they are produced and the lung grows clear. During the treatment the general condition of the patient remains always good; there is no loss of weight and the temperature falls to normal. I have used tuberculinum purum in the sanatorium as well as in private practice, and always obtained good results. In contrast to the old tuberculin it can also be used in cases of acute or subacute tuberculosis. Tuberculinum purum is not contraindicated in the presence of complications in other organs than the lungs. Yet the most favorable results have been in chronic, uncomplicated cases. The remedy has rather the effect of lowering the temperature. Rises of temperature are extremely rare as signs of a reaction, provided the dose be increased step by step. The use of the remedy is not followed by any unpleasant subjective or objective symptoms. One-third of the 25 cases treated with tuberculinum purum belonged to the severe types of cases, and only 12 per cent. could be classed as mild. The tubercle bacilli disappeared from the expectorations in 59 per cent. of the cases treated; the bacilli diminished considerably in number in 31 per cent. The catarrhal symptoms in the lungs disappeared in 75 per cent. and were lessened in 25 per cent. The temperature became normal during the treatment in 31 per cent. and at the completion of the treatment in 62 per cent. The number of injections was 20 in 80 per cent. of the cases. The duration of treatment was from forty to sixty days. The initial dose was almost uniformly 0.01 milligram, while the terminal dose was from 100 to 200 milligrams. The patients gained in weight in 96 per cent. of the cases, the gain ranging from 1 to 6 kilos. The great advantage of tuberculinum purum lies in the fact that it is easily used in private practice, because no unexpected signs of reaction are to be feared with its use. As a diagnostic measure, tuberculinum purum may be used in doses of 0.5 milligram. In undiluted form it produces von Pirquet's cutaneous reaction in the presence of tuberculosis.

Chemistry of the Tubercle Bacillus.

DR. VICTOR C. VAUGHAN, Ann Arbor, Mich.: The tubercle bacillus has been grown in large quantity, and after having been freed from fats, waxes, and other substances soluble in alcohol and ether, is split up by an alcoholic solution of alkali into its poisonous and non-poisonous portions. The poisonous portion kills animals within a few months, when given in doses of from 75 to 100 mg. The non-poisonous portion sensitizes animals to the tubercle bacillus, but is without poisonous action. The non-poisonous portion has been used and is being used in the treatment of tuberculosis in man. However, it is too early yet to state whether or not it is better for this purpose than the old tuberculin.

Part of Enzymes in Tuberculous Lesions.

DR. EUGENE L. OPIE, New York: The enzymes of tuberculous tissue have been studied in animals inoculated in the pleural cavity with tubercle bacillus. The enzyme peculiar to polynuclear leucocytes is present shortly after inoculation, but

quickly diminishes in activity. A second enzyme which digests proteid in weak acid is present in abundance until caseation occurs, but subsequently disappears. The serum of the exudate which accumulates within the chest loses the power possessed by the serum of the blood to inhibit this and similar enzymes. The enzyme which acts in acid is doubtless present in the epithelioid cells of the tubercle and is similar to those of the large mononuclear cells of an inflammatory exudate which the epithelioid cells resemble. Autolysis caused by the enzymes no longer held in check, may explain the occurrence of caseation in tissue containing products of tubercle bacillus and poorly vascularized.

Report on Serologic Studies in Tuberculosis by Drs. K. Reitter and E. Stoerk (Vienna).

DR. H. VON SCHRÖTTER, Vienna: At the third medical clinic held in Vienna serologic investigations are in progress by Drs. K. Reitter and E. Stoerk, intended to enrich our knowledge of means for the early diagnosis of tuberculosis. It has been demonstrated that in the serum of tuberculous patients, etc., especially in the early stage of the disease, substances of a colloidal nature appear which are precipitated by addition of double the amount of 0.5 per cent. carbolized sodium chlorid solution (in the course of twelve hours' stay in the incubator). The addition of an ethereal extract of tubercle bacilli (extract of one-half gram bacilli in 200 c.c. carbolized salt solution) renders the precipitating reaction positive in an even higher percentage of cases. In the diagnostic application of this reaction certain diseases, probably accompanied by lipemia, must be excluded (as tumors in regressive metamorphosis, diabetes, occasionally also infections of a non-tuberculous character).

The Liver in Tuberculosis.

DR. JOSEPH T. ULLOM, Philadelphia: A review of the literature shows that tuberculosis of the liver has been recognized for at least seventy years, but it was considered a much rarer manifestation than is now thought to be the case. An improved microscope has shown tubercles where the naked eye could not find them. Tuberculosis manifests itself in the liver as (1) miliary tubercles; (2) solitary tubercles; (3) tuberculous cirrhosis. Amyloid disease was found in my series in 10 per cent. of cases.

Conclusions.—1. Miliary tubercles are found in the liver of the great majority of cases of chronic phthisis autopsies.

2. The infection is probably hematogenous, the bacilli being carried to the liver by the portal vein and the hepatic artery.

3. Solitary tubercle of the liver is a rare occurrence in human beings.

4. Passive congestion of the liver is found in nearly every case of pulmonary tuberculosis, while amyloid disease and fatty change are found in a relatively small number of cases.

5. From our cases we are not convinced that a fibrosis or cirrhosis of the liver due to the tubercle bacillus does occur, and are more inclined to think that the fibroses found are due to other etiologic factors.

Anatomic Characteristics of Tuberculous Infections and Their Relation to Tuberculin Reactions.

PROF. S. ARLOING, Lyons, states the following question, which he seeks to answer: Does tuberculous infection always manifest itself by some more or less evident microscopic lesion?

The lesions which accompany tuberculous infection do not always represent tubercles visible to the naked eye. Owing to the differences in the virulence of the bacillus, the lesions are sometimes extremely slight and visible only in histologic sections. In addition, a diminution in the virulence may bring about a certain modification, which in turn causes profound changes in the reactions of the organism. Not only must the lesions be looked for with the microscope, but they no longer possess the classical histologic characteristics. Finally, there are some cases in which the bacilli spread in the organisms and exhaust themselves without leaving any trace of their passage. In such cases tuberculous infection shows itself only by the presence of bacilli in the tissues; or it may be revealed by experimental methods of diagnosis, especially tuberculin and the serum-agglutination test. Whatever may be the histologic character of the tuberculous infection, the patient at some time will react positively to these experimental tests. Hence these tests reveal the existence of bacillary infection rather than the presence of appreciable tuberculous lesions. This being the case, it is to be expected that a disagreement, often more apparent than real, should be found between the experimental diagnosis and the postmortem microscopic diagnosis. The number of these discrepancies will be diminished by seeking histologic changes, and, if necessary, the bacilli themselves, at the autopsy. In the absence of both, a positive reaction to tuberculin should nevertheless be regarded as proof that a latent infection was either extending in the organism or in process of recovery. During life, the same significance should be attributed to a positive reaction, and in most cases the results will be found to be correct. These facts show the necessity of perfecting prognosis as well as of methods of diagnosis, in order to foretell as accurately as possible the probable future of a tuberculous infection.

The Pneumonic Process in Pulmonary Tuberculosis.

PROF. RAYMOND TRIPIER, Lyons: In the lungs the morbid process in every kind of tuberculous formation is pneumonic, and we observe the simultaneous tendency to diffuse bronchopneumonic and lobular, sometimes pseudolobar, and exceptionally lobar inflammations which, if the condition becomes chronic, result in hyperplastic and sclerotic changes. If these productive phenomena which necessitate an increase of the circulation are frequently seen in pulmonary tuberculosis, in spite of the debilitated state of the organism, it is because the caseous, necrotic lesions which are produced by the obliteration of numerous blood vessels are necessarily accompanied by compensatory vascular dilatation in other portions. Hence the diffuse pneumonic process is followed by diffuse sclerosis, and if hepatization takes place, it is never gray, but red, so that its persistence produces hyperplastic pneumonia and the fibroid changes which may be regarded as cicatricial.

Incidence of Tuberculosis in Viscera.

DRS. J. GEORGE ADAMI and JOHN MCCRAE, Montreal, gave an analysis of 1,000 consecutive autopsies in Montreal, with reference to the incidence of tuberculosis in the various organs.

Incidence of Chronic Pleurisy and Its Relationship to Tuberculosis.

DR. A. RAYMOND LANDRY, Montreal, presented a review of 1,400 consecutive autopsies held at the Royal Victoria Hospital, Montreal, and presented statistics to show the frequency of chronic pleurisy, its most common sites, its association with diseases of the lungs, heart, other serous sacs, liver, spleen, kidney, etc. The personal and family histories of the cases were gone into particularly from the viewpoint of tuberculosis and infectious diseases. The average age of those who come to autopsy at the Royal Victoria Hospital is about 35, and as few as possible patients suffering from tuberculosis of the lungs, etc., are taken in.

The Histogenesis of Tuberculosis of Bones.

DR. JOSEF KERTESZ, Budapest, has made a number of experimental examinations in the pathologic institute of the Herr Hofrath Prof. Dr. Otto Pertik to clear up the question of the initial stage of tuberculosis of bone marrow, with the following results:

Tubercle bacilli introduced into the bone marrow of rabbits are quickly surrounded by polymorphous leucocytes, and they as well as a portion of the fixed connective tissue cells situated in the district invaded are destroyed within two or three days. Another portion of the fixed connective tissue cells as well as the desquamated endothelial cells of the capillaries increase amitotically. These cells as well as the young proliferated elements group themselves about the tubercle bacilli and form the epithelioidal tubercle, which is completely formed as early as the fourth day. The first tuberculous giant cells appeared on the fifth day, originating at this stage through a confluence of the augmented endothelium of the capillaries. On the seventh day lymphocytes group themselves about the tubercle, which later at this time already shows signs of caseation in its center. On the eighth day the lymphocytes penetrate the tubercle; thus originates the lymphoid tubercle. The leucocytes do not reach the neighborhood of the bacilli in their initial accumulation from the blood vessels, but rather from the septa of the neighboring bone marrow. The lumina

of the capillaries in the neighborhood of the tuberculous tissue are obliterated either through pressure, or they disappear through the desquamation of the endothelium, which then begins to proliferate. The giant cells are formed in a number of different ways. The accumulation about, and the migration into the tubercle on the seventh or eighth day takes place also from the neighboring bone marrow. The connective tissue elements of this tissue proliferate. It is probable that this increase in connective tissue produces the obliteration in the blood spaces. The destruction of the tubercle, its coagulation necrosis, is caused, therefore, not considering the toxins of the bacilli, by the obliteration of the capillaries and the blood spaces in its neighborhood.

The Kidneys in Tuberculosis of the Lungs.

DR. JOSEPH WALSH, Philadelphia: The kidneys from cases of tuberculosis of the lungs showed ulcerative tuberculosis in 2.8 per cent., positive tubercles in 53.8 per cent., amyloid degeneration in 6.6 per cent., cloudy swelling in 11.3 per cent., acute parenchymatous nephritis in 41.5 per cent., diffuse nephritis in 1.9 per cent., chronic parenchymatous nephritis in 33.9 per cent., chronic general interstitial nephritis in 11.3 per cent., and chronic focal interstitial nephritis in 74.5 per cent. It appears possible that the chronic focal interstitial nephritis may be dependent on the tuberculosis, or its mixed infections, but the pathogenesis has not yet been learned. The chronic general interstitial conditions were few in number and mild in degree; hence there is a possible antagonism between tuberculosis and chronic general interstitial nephritis. Inoculation of the urine into guinea pigs showed tubercle bacilli in the urine in 82.5 per cent. of cases.

The Pathology of Tuberculous Peritonitis.

DR. WALTER ALTSCHUL, Prague: Although tuberculous peritonitis is frequent, as indicated by the fact that I found 299 cases among 10,322 autopsy reports, the recent pathologic literature contains practically nothing about the etiology. It was formerly believed that all cases of tuberculous peritonitis originated in the female genitalia or in the intestine. Infection may be simultaneous and independent in the female genitalia and in the peritoneum, as shown by cases of tuberculosis of the abdominal end of the tube, and in cases of recent uterine tuberculosis in which it can be proved that the infection has reached the uterus from an old tubal focus. Although the percentage of cases is greater among females than among males, the difference is not sufficient to indicate a greater frequency among women. Among 299 cases of tuberculous peritonitis I found that 156, or 52 per cent., were women, and of these 156 cases only 52 showed tuberculosis of the genital organs. The intestine can not be regarded as the sole point of origin of tuberculous peritonitis, as there are many cases without any intestinal involvement. The peribronchial lymph glands naturally suggest themselves as the sources of the infection, which may spread in one of two ways; either by the blood or by the lymph channels. If the bacilli were carried by way of the blood paths they would be arrested in the pulmonary capillaries and set up a pulmonary tuberculosis; but there are many cases of tuberculous peritonitis in which there is no pulmonary involvement whatever (11 cases in my statistics). The fact that the peritoneum usually escapes in miliary tuberculosis is also against the blood paths. By exclusion we arrive at the conclusion that the infection travels by the lymph channels. Sappey and Küttner have recently shown that there exists a communication between the thoracic and abdominal cavities by way of the lymph vessels, and Küttner found that the lymph passes in both directions through these vessels. The path of infection is, therefore, from the peribronchial lymph glands through the perforating lymphatics of the diaphragm into the peritoneal cavity, chiefly to the retroperitoneal glands, which are almost always involved in tuberculous peritonitis. The tubercle bacilli may also pass through the diaphragm and produce a localized tuberculosis of the lower surface of that membrane, as sometimes occurs in early cases (Tendeloo).

Under what conditions does pulmonary tuberculosis develop, and what are the factors which determine infection of the peritoneum? Why are the lungs usually involved but little or not at all in tuberculous peritonitis?

Tendeloo is of the opinion that the lymph stream can only travel from the thoracic cavity toward the peritoneal cavity when the intrathoracic pressure is greater, and he gives as one of the reasons the presence of adhesions binding the lung to the chest wall, and particularly to the diaphragm. In the material which I examined and which amounted to more than 10,000 autopsies, 299 cases of tuberculous peritonitis showed pleural adhesions in 199 instances (adhesion of only one pleura in 26 cases); in 54 cases the adhesion was limited to the apex; in 33 of the remaining 45 cases the lungs were free, and in 13 adhesions were not mentioned, so that it may be admitted that the lungs were free in these cases also. It follows, therefore, that adhesions of any extent were present in only two-thirds of the cases; hence Tendeloo's theory does not apply to all cases. I found that in the so-called cases of pure tuberculous peritonitis that in the cases in which only the bronchial glands were involved outside of the peritoneum the lungs were usually not adherent. I studied 1,023 autopsy reports of tuberculous subjects with this point in view, and found that of the 281 cases which showed tuberculosis of the abdominal organs, 190, or 67.5 per cent., had pleural adhesions; 55, or 19.5 per cent., had apical adhesions; and 36, or 13 per cent., were free. In the 742 cases without involvement of the abdominal organs, 441, or 59.5 per cent., had adhesions; 209, or 28 per cent., apical adhesions; and in 92, or 12.5 per cent., the lungs were free. Hence the percentage of cases without pleural adhesions is slightly higher when the abdominal organs are involved than in cases without abdominal tuberculosis. I suggest the following explanation: In tuberculosis of the peribronchial glands the healing process may begin in the proximal or in the distal portion. If the infection spreads (which is of course not always the case), the manner in which the healing takes place is of some importance. If recovery begins in the distal portion the bacilli can escape only into the thoracic duct, i. e., into the circulation. The bacilli enter the capillaries of the lung, where they are arrested and produce a pulmonary tuberculosis. If healing begins in the proximal portion, access to the circulation is blocked, and the bacilli are carried in a retrograde direction through the perforating lymphatics of the diaphragm to the peritoneum. If several bronchial glands are affected, it is, of course, possible that healing may begin in the proximal end of some, and in the distal portion of others, which would explain those cases in which a severe pulmonary tuberculosis is associated with tuberculous peritonitis, and in which both processes are secondary to disease of the peribronchial lymph glands, although one localization may appear later than the other.

REPORT OF COMMITTEE ON AWARDS OF PRIZES.

Dr. Charles J. Hatfield, Philadelphia, Chairman.

This committee was organized with Dr. Elmer Ellsworth Brown, U. S. Commissioner of Education, as president, and Dr. Frank T. Fulton, of Providence, R. I., as secretary. Twelve subcommittees were appointed to carry on the work of judging.

COMPETITION I.

For the best evidence of effective work in prevention or relief of tuberculosis by any voluntary association since the last International Congress in 1905.

Cash Prize, $1,000, divided: $500 to the Women's National Health Association of Ireland; $500 to the Committee on Tuberculosis of the New York Charity Organization Society.

Gold Medal, to the Swedish Association for the Prevention of Tuberculosis.

Gold Medal, to the Boston Association for the Relief and Control of Tuberculosis.

Silver Medal, to the Cleveland Anti-Tuberculosis League.

Silver Medal, to the Hungarian Anti-Tuberculosis Association.

Silver Medal, to the Providence League for the Suppression of Tuberculosis.

Honorable Mention, to the Baltimore Visiting Nurses' Association.

Honorable Mention, to the Jewish Consumptives' Relief Society of Denver.

Honorable Mention, to the Maryland Association for the Prevention and Relief of Tuberculosis.

Honorable Mention, to the Philadelphia Visiting Nurse Society.

Honorable Mention, to the Tuberculosis Relief Association of Hartford, Conn.

Honorable Mention, to the International Children's School Farm League.

Honorable Mention, to the Brehmer Rest, Montreal.

COMPETITION II.

For the best exhibit of an existing sanatorium for the treatment of curable cases of tuberculosis among the working classes.

Cash Prize, $1,000, divided: $500 to the White Haven Sanatorium of White Haven, Pa.; $500 to the Brompton Hospital Sanatorium, Frimley, England.

Gold Medal, to the Beelitz Sanatorium, near Berlin.

Gold Medal, to the Adirondack Cottage Sanatorium, Saranac Lake, N. Y.

Silver Medal, to the Sanatorium De Bligny, France.

Silver Medal, to the Eudowood Sanatorium, Maryland.

Silver Medal, to the Massachusetts State Sanitarium, Rutland, Mass.

Honorable Mention, to the Agnes Memorial Sanatorium, Denver, Colo.

Honorable Mention, to the Leysin Sanatorium, Switzerland.

Honorable Mention, to the National Jewish Hospital for Consumptives, Denver, Colo.

Honorable Mention, to the Otisville Sanatorium of the New York City Board of Health.

Honorable Mention, to the Barlow Sanatorium, Los Angeles, Cal.

Honorable Mention, to the Union Printers' Home, Colorado Springs, Colo.

COMPETITION III.

For the best exhibit of a furnished house, for a family or group of families of the working class, designed in the interests of the crusade against tuberculosis.

Gold Medal, to Mr. Milton Dana Morrill, Washington, D. C.

Gold Medal, to Senor Jose F. Toraya, Cuba.

Honorable Mention, to Dr. Charles Denison, Denver, Colo.

COMPETITION IV.

For the best exhibit of a dispensary or kindred institution for the treatment of the tuberculous poor.

Cash Prize, $1,000, to the Henry Phipps Dispensary of Johns Hopkins Hospital, Baltimore, Md.

Gold Medal, to the Manhattan Tuberculosis Dispensary of the New York Department of Health.

Gold Medal, to the Dispensary of the Henry Phipps Institute of Philadelphia, Pa.

Silver Medal, to the Dispensary Clemente Ferreira of Sao Paulo, Brazil.

Silver Medal, to the Dispensary of the Boston Consumptive Hospital.

Silver Medal, to the Kensington Dispensary of Philadelphia, Pa.

Gold Medal, to the Tuberculosis Class of Emmanuel Church, Boston, Mass.

Honorable Mention, to the Babies' Dispensary of Cleveland, Ohio.

COMPETITION V.

For the best exhibit of a hospital for the treatment of advanced pulmonary tuberculosis.

Cash Prize, $1,000, to the Brompton Hospital, London, England.

Gold Medal, to the Loomis Sanitarium, Liberty, N. Y.

Gold Medal, to the Massachusetts State Hospital, Tewkesbury.

Silver Medal, to the Riverside Hospital, New York.

Silver Medal, to the Tuberculosis Hospital, Washington, D. C

Silver Medal, to the Reception Hospital, Saranac Lake, N. Y.

Gold Medal, to the Henry Phipps Institute, Philadelphia.

Honorable Mention, to the Clinton Prison Hospital, New York.

COMPETITION VII.

For the best educational leaflet submitted in each of the classes defined below:

CLASS A.—For adults generally (not to exceed 1,000 words).

Cash Prize, $100, to the Pennsylvania Society for the Prevention of Tuberculosis, 52 De Long Building, Philadelphia, Pa.: "Plain Facts About Tuberculosis, Tract No. 9."

Silver Medal, to Verein zur Bekampfung der Schwindsucht in Chemnitz und Umgebung. (E. V.): "Schutz vor Schwindsucht."

Gold Medal, to Dr. O. D. Wescott, Agnes Memorial Sanatorium, Denver, Colo.: "Consumption Is the Most Common Form of Tuberculosis."

CLASS B.—For teachers (not to exceed 2,000 words).

Gold Medal, to Dr. H. S. Goddall, Stony Wold Sanatorium, New York: "Leaflet for Teachers."

Silver Medal, to George H. Kress, 240 Bradbury Building, Los Angeles, Cal.: "The Warfare Against Tuberculosis and the Relation of Teachers Thereto."

CLASS C.—For mothers (not to exceed 1,000 words).

Cash Prize, $100, to Verein zu Bekampfung der Schwindsucht in Chemnitz und Umgebung. (E. V.).

Gold Medal, to George H. Kress, 240 Bradbury Building, Los Angeles, Cal.

Silver Medal, to Miss Mabel Jaques, Visiting Nurse Society, Philadelphia.

COMPETITION VIII.

For the best exhibits sent in by any states of the United States, illustrating effective organization for the restriction of tuberculosis.

Gold Medal, to the State of New York.

Silver Medal, to the State of Massachusetts.

Silver Medal, to the State of Pennsylvania.

COMPETITION IX.

For the best exhibit sent in by any state or country (the United States excluded), illustrating effective organization for the restriction of tuberculosis.

Gold Medal, to Germany.

Silver Medal, to Sweden.

Silver Medal, to Great Britain.

COMPETITION X.

A.—For the best contribution to the pathologic exhibit.

Special Gold Medal, to the United States Bureau of Animal Industry.

Gold Medal, to the exhibit from England.

Silver Medal, to Boston University.

Silver Medal, to the Henry Phipps Institute, Philadelphia.

Honorable Mention, to McGill University, Montreal.

Honorable Mention, to New York State Veterinary College at Cornell University.

Honorable Mention, to Michigan University.

Honorable Mention, to the German exhibit.

Honorable Mention, to the special exhibit of Saranac Laboratory for the Study of Tuberculosis.

B.—For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any state of the United States.

Gold Medal, to the State of Wisconsin.

Silver Medal, to the State of Maryland.

Silver Medal, to the State of New York.

D.—For the best exhibit of laws and ordinances in force June 1, 1908, for the prevention of tuberculosis by any municipality in the world.

Gold Medal, to New York City.

Silver Medal, to Saranac Lake, N. Y.

Silver Medal, to Chicago, Ill.

E.—For the society engaged in the crusade against tuberculosis having the largest membership in relation to population.

Gold Medal, to the National Swedish Anti-Tuberculosis Association.

Silver Medal, to the Maryland Association for the Prevention and Relief of Tuberculosis.

F.—For the plans which have been proved best for raising money for the crusade against tuberculosis.

Gold Medal, to the National Swedish Anti-Tuberculosis Association.

Silver Medal, to the Wisconsin Committee of International Congress on Tuberculosis.

Silver Medal, to the Working Men's Club of Hartford, Conn.

Honorable Mention, to the Maryland Association for Prevention and Relief of Tuberculosis.

H.—For the best plans for the employment of arrested cases of tuberculosis.

Gold Medal, to the Eudowood Sanatorium Farm of Baltimore.

Silver Medal, to the Henry Phipps Training School for Nurses of Philadelphia.

I.—For the best exhibit of new architectural plans for a sanatorium for the treatment of curable cases of tuberculosis among the working classes.

Silver Medal, to Mr. Lindley Johnson, Philadelphia.

Silver Medal, for the plans shown in the Agnes Memorial exhibit.

Honorable Mention, to Milton See and Son.

Honorable Mention, to Garland Lister and West, England.

Honorable Mention, to A. Randall Wells, England.

K.—For the best exhibit of new architectural plans for a hospital for the treatment of advanced pulmonary tuberculosis.

Silver Medal, to the exhibits of the Swedish National Anti-Tuberculosis Association.

Silver Medal, to the Henry Phipps Institute, Philadelphia.

Silver Medal, to the Boston Consumptives' Hospital.

M.—For the best exhibit of a unit package of preventive supplies for a tuberculosis patient for a definite period of time (one, two, three or four weeks).

Gold Medal, to the State Board of Health of Maryland.

Silver Medal, to the Henry Phipps Institute of Philadelphia.

N.—For the best exhibit of a workshop or factory, constructed and managed in the interest of the crusade against tuberculosis.

Silver Medal, to the Massachusetts exhibit for the series of photographs showing devices to improve factory conditions in the state.

SPECIAL AWARDS TO EXHIBITS NOT IN COMPETITION.

Gold Medal, to the United States Government Printing Office for novel sanitary cuspidors and appliances.

Gold Medal, to the United States Government Department of the Interior for a valuable and interesting exhibit of tuberculosis among the Indians.

Gold Medal, to the United States Department of Commerce and Labor for its fine exhibit of charts and maps bearing on tuberculosis, prepared by the Census Bureau.

Gold Medal, to the United States Marine-Hospital Service for an excellent exhibit showing valuable work in progress.

Gold Medal, to the Department of Health of the State of Pennsylvania in recognition of its work in establishing a magnificent system of dispensaries and sanatoria.

Gold Medal, to the State of Colorado, with special mention, for the splendid relief map of the state exhibited by it.

Gold Medal, to the Massachusetts State Committee of the International Congress for the bound volume on "Tuberculosis in Massachusetts," a valuable contribution to the literature of this subject, bringing together related facts and history heretofore accessible only in separate and disconnected forms.

Gold Medal, to the Anti-Tuberculosis League of Porto Rico, for noteworthy progress since the institution of the league.

Gold Medal, to the National Association for the Combating of Tuberculosis of Denmark, for its interesting history of successful effort.

Gold Medal, to the New York State Charities Aid Association for effective work in organizing a state campaign.

Gold Medal, to the Sea Breeze Hospital, Coney Island, New York, for sea air treatments of tuberculosis of the bones, joints and glands in children.

Gold Medal, to the National Association for the Study and Prevention of Tuberculosis, for its report entitled, "The Campaign Against Tuberculosis in the United States."

Gold Medal, to the Colorado Fuel and Iron Company for its fine exhibit of exemplary work in its hospital and welfare departments in behalf of its thousands of employés in the prevention of tuberculosis.

Gold Medal, to the Playground Association of America for its striking exhibit and the valuable work being accomplished by it in developing this important preventive measure.

Gold Medal, to the International Children's School Farm League of New York City, a beautiful work, wisely planned, successfully demonstrated and prolific in its results.

Gold Medal, to the *Journal of the Out-Door Life*, Trudeau, N. Y., in recognition of the valuable service which it has given and is giving in the general campaign against tuberculosis throughout the United States.

Gold Medal, to Dr. D. Sarason, Berlin, Germany, for models and plans showing new and interesting principles in house construction in its relation to the prevention of tuberculosis.

Gold Medal, to the Anna von Rath Stiftung, Berlin, Germany, for valuable philanthropic work as illustrated in its exhibit.

Gold Medal, to Prof. J. C. Haymans of the University of Ghent, Ghent, Belgium, for his admirable exhibit, illustrating his method of vaccination of cattle.

Gold Medal, to Prof. Edouard Lang of Vienna for his painstaking and persistent efforts in the interest of the treatment of tuberculosis of the skin.

Gold Medal, to Dr. Simon von Unterberger of St. Petersburg, Russia, for a valuable paper on "House Sanatoria in the Fight with Tuberculosis," elaborating twelve theses of texts for wall charts, with the recommendation that, if the central committee thinks it wise, the paper should be translated into English and printed with the transactions of the Congress.

Silver Medal, to Dr. Sims Woodhead for plans, with elaborate details and descriptions, of a sanatorium in England.

Silver Medal, to the State Department of Health of Pennsylvania for a model cottage for incipient cases of tuberculosis shown in exhibit No. 26 of Pennsylvania.

Silver Medal, to the New York State Committee of the International Congress for its exhibit illustrating the production of clean milk.

Silver Medal, to the Central State Hospital Tuberculosis Department, Petersburg, Va., under the care of Dr. W. F. Drewry, for advanced knowledge and research and preventive work in connection with tuberculosis among the negroes.

Silver Medal, to the Louise M. Alcott Club and the Hawthorne Club jointly of Boston, Mass., for an especially fine exhibit of their work and methods in the training of children in the laws of hygiene and the means of prevention of tuberculosis.

Silver Medal, to the Gaylord Farm Sanatorium, Wallingford, Conn., for its exhibit illustrating the value of its training for patients for after-care of themselves in their homes and occupations.

Silver Medal, to Barlow Sanatorium at Los Angeles, Cal., for the admirable model in regard to excellence in detail, construction and installation.

Silver Medal, to the Prudential Insurance Company of Newark, N. J., for its series of splendid charts showing mortality from consumption in various occupations.

Honorable Mention, to the Nathan Straus exhibit in recognition of philanthropic effort in supplying milk to the children of the poor.

Silver Medal, to the Stonywold Sanitarium, Lake Kushaqua, New York, for its admirable method of securing maintenance through ladies' auxiliaries in many communities.

Honorable Mention, to the State Board of Health of Maine for the painstaking exhibits showing the accomplishments of the board in that state.

Honorable Mention, to the State Board of Health of Michigan for a model shack for home use, having novel and excellent features.

Honorable Mention, to the Department of Health of the State of Pennsylvania for twelve beautiful auto-tone films of human lungs, showing tuberculosis conditions, this being the first application of this process to medical uses.

Honorable Mention, to the New York State Department of Health for six popular educational banners for use in tuberculosis campaigns.

Honorable Mention, to the National Institution for Assisting Consumptives, Lisbon, Portugal, for an interesting historical sketch of the work of relief and prevention of tuberculosis in that country.

Honorable Mention, to the Boston Association for the Prevention of Tuberculosis in recognition of its special classes in hygienic instruction of delicate children and its outdoor school for children afflicted with consumption.

Honorable Mention, to the exhibit of the Hospital for Crippled and Deformed Children of Baltimore, Md., which well illustrates its work and is valuable educationally.

Honorable Mention, to Arthur V. Chapman of West Orange, N. J., a sufferer from tuberculosis, for a model built by himself of a consumptive's shack, in which he has lived in his own back yard for some years, with the result of improvement in his condition, and which he offers to show others what a poor man can do to help himself to recovery.

Honorable Mention, to the Portland Open Air Sanatorium at Portland, Ore., for the model of a shack and other models showing valuable work done and in progress.

Honorable Mention, to the Pittsburg Natatorium Educational Department for its portable school exhibits.

Honorable Mention, to the Davos Hospital for Advanced Tuberculous Cases, Davos, Switzerland, for a fine exhibit of its great establishment.

Honorable Mention, to Dr. Theodore B. Sachs of Chicago for his exhibit of charts showing results of investigation of tuberculosis conditions in Jewish districts in that city.

The committee has considered with much interest and appreciation the evidence laid before it of personal work through the Federation of Women's Clubs, through labor unions, and similar associations, for the promotion of the general campaign against tuberculosis. It regrets that it does not see the way clear to make special awards to individuals in this country for personal work in the cause.

A number of other competitions were previously announced, but, as no awards were made, no mention is made of them here.

(The report of the proceedings of the sections will be continued next week.)

KENTUCKY STATE MEDICAL ASSOCIATION.

Fifty-third Annual Session, held at Winchester, Sept. 23-25, 1908.

(Continued from page 1354.)

Perforative and Infective Peritonitis.

DR. FRANK BOYD, Paducah, in the address in surgery, discussed infective peritonitis at length:

The elements of treatment consist, first, in closing the point of leakage; second, relieving pus tension by putting in a drain; third, getting out of the peritoneal cavity and leaving in the drain to prevent subsequent tension. There should be no washing, no sponging, no trauma. Salines should be used by rectum by the drop method, and the patient should be kept in as nearly a sitting position as possible. To summarize: Early diagnosis and prompt operation are imperative, providing free drainage and closing the perforation. No time should be wasted in breaking up adhesions, walling off, wiping off, or flushing out. No opiates should be given under any circumstances. Saline solution should be administered by the drop method continually until the patient is out of danger. The patient should be placed in a sitting position, or the bed should be elevated sufficiently to accomplish the same purpose. No patient should be refused operation by reason of his desperate condition.

SYMPOSIUM ON NERVOUS DISEASES.

Hysteria.

DR. MILTON BOARD, Louisville: In the treatment of hysteria the object to be attained is re-establishment of the discipline of life—regularity in the hours of rising, retiring or meals, and of the secretory functions. A great amount of tact and firmness on the part of the physician and nurse is required, and the absolute surrender of the patient into the hands of the medical adviser is essential. Hysteric patients can seldom be treated at home with success. Isolation is required, as thereby is accomplished the breaking of domestic, business and social ties which have produced or aggravated the disease. Treatment wherever given should be prolonged and as far as possible a new moral nature given the patient.

Multiple Neuritis.

DR. GEORGE P. SPRAGUE, Lexington: This disease results from poisoning by alcohol, lead, arsenic, mercury, ergot, carbon sulphid, carbon oxid, silver, many of the infectious diseases, especially diphtheria, typhoid, rheumatism, influenza and malaria, and in states of severe malnutrition. The number of males affected by it is larger than is the number of females, and yet considering the lesser number of females who use alcohol, it is clear that women are far more susceptible to it than are men. This has been ascribed to the more delicate nervous organization of the female, but as a sedentary life predisposes to the occurrence of multiple neuritis, it may also account for the greater susceptibility of women. The forms most frequently observed in this country are in the order of their occurrence, those due to alcohol, diphtheria, lead and arsenic; but alcohol causes from 60 to 80 per cent. of all cases. Multiple neuritis occurs without known exciting cause, but there is, in every case, an acquired or inherited nervous weakness in addition to the toxin absorbed. The pathology varies somewhat in the various forms, but the changes found in alcoholic neuritis are the most widespread, including most of the conditions found in the other forms. The symptoms are many and varied, but are symmetrical as to the two sides of the body being affected, although one side is always more involved than the other, and this difference in degree may be alternating. The diagnosis in a typical case should be easy for the general practitioner, as a progressive weakness, accompanied by acute pain and muscular atrophy, beginning in the extensor muscles of both feet, slowly extending to the thighs, then involving both arms and forearms, followed by both arms and finally affecting the trunk, can not belong to any other disease. The treatment is entirely symptomatic. With a toxic cause, degenerating nerves and atrophying muscles, contracture of joints, extreme pain and confusion of mind, it is evident that the patient must be put at once to bed, even though he feels no need of it; the poison must be removed, and the patient be put on a full diet.

Occupation Neuroses.

DR. JOHN J. MOREN, Louisville, reported cases of occupation neuroses, chiefly of writer's cramp:

In writer's cramp, when the case is seen early and there is evidence of anemia or some defect which can be removed or relieved, the outlook is comparatively favorable, but in all cases of occupational neurosis which have become thoroughly established, it has been my experience that the prognosis for cure is unfavorable. I have never seen good result from any treatment in well-marked, thoroughly developed cases of writer's, telegrapher's or typewriter's cramp. Typewriter's cramp and the so-called occupational pain, are much more amenable to treatment. I have seen several cases which resembled occupation neurosis, as in button-hole workers, seamstresses, etc., which were only paresthesia of the nerve, dependent on anemia, the correction of which relieved their symptoms. The most important part of treatment is complete rest. In cases in which a continuation of the occupation is necessary, partial rest may be tried. Recently, Bier's hyperemic method was used in one case with decided improvement. A rubber band was used around the forearm for twenty minutes twice daily.

Discussion on Nervous Diseases.

DR. CURRAN POPE, Louisville: The essential element in the treatment of hysteria is the appeal to the patient, and this comes more strictly and directly through the physician than it does through any other element. His own experience, his own actions, his own ability to cause clean-cut, decisive acts have more to do in making the appeal to the hysteric patient than any other feature in the management of a particular case. I differ from Dr. Sprague in the statement that there is a loss of the faradic response in cases of multiple neuritis. There may be only partial loss of faradic response. The essential element is in the changed reaction. The treatment should be direct, radical and progressive in these cases. Whenever a case of this kind comes under my care, the essential keynote is elimination and reconstruction—elimination through the skin, by the kidney and through the bowels.

DR. O. HANCOCK: Hysteria is a terminal affection which results from faulty metabolism of the liver. We have so many manifestations and so many pains that we have been in the habit of regarding them as imaginary symptoms, making light of them with patients who really suffer. These fixed products in the blood are poisonous, and they have an effect on the nervous system. They produce these conditions in the body which are real and we must regard them as such. We must be more humane in the management of cases of hysteria. We should maintain equalization of metabolism, and control the liver, so that we may be able to eliminate this poison from the fixed products in the blood. The power of personal appeal has much to do with this matter.

SYMPOSIUM ON DISEASES OF CHILDREN.

Diet and Hygiene of Children from Two to Six Years of Age.

DR. P. H. BARBOUR, Louisville: When children have reached the age of 2, the character of the feeding is not of such vital importance as in the earlier years of their lives. The healthy average child over 2 years of age is able to digest any kind of food that the parents are likely to give it. All easily digestible foods are suitable for a child between the ages of 2 and 6. It is often impossible to get a child at this age to take a sufficient variety of food. The training of a child to eat the proper food is one of the most important duties of the mother, and by patience and perseverance a taste for any of the usual foods can be acquired. It is important that the child be not overfed with sweets. When there are idiosyncrasies to certain foods on the part of the parents, it will frequently be found that the child is also unable to digest them. The hygiene of the child during this period is especially important for these years leading up to second dentition comprise one of the great developmental periods in its life. One of the safeguards against the hyperexcitement of the child is fatigue. Fatigue is the healthy normal response to exertion. Normally, when the child has played and becomes fatigued it stops and takes its rest in one way or another, and so a healthy fatigue builds up and strengthens the body, but in the city flats where the children are cooped up with the parental mind all day, there is a false stimulation to exertion which frequently results in over-fatigue, the continued effects of which may leave a permanent impression on the growing child. Growing pains are often thought by mothers to be a natural process and a result of too much play. It is important during this period of life to emphasize these as evidences of rheumatism with all the potentiality of organic heart disease. The physician should caution the mother on this point.

Comparative Dosage in Children.

DR. A. O. SISK, Earlington: By comparative dosage in children we determine the size of the dose of a particular drug to be given a child according to its age, development, idiosyncrasies, susceptibility, etc. The full or adult dose ordinarily is reckoned to be given at the age of 21 years, and the full dose is reduced proportionately for the child according to conditions. So many circumstances are connected with infancy and childhood that one must be governed by the individual case. For instance, one child may be more developed at 10 than another is at 14. The nursing baby, in its second summer, with the almost certainty of the acute infectious diseases, together with all or nearly all the diseases to which man is heir, is rendered exceedingly liable to faulty development. In determining the size of the dose to be given, one must consider the nature of the disease and the properties of the medicine required, whether it be an opiate, anodyne, stimulant, purgative or sedative; whether it be the iodids, bromids or salicylates; whether the action is to be systemic or local; and last but not least, one must determine for himself whether there exist any idiosyncrasies for any drug or group of drugs.

Symptomatology.

DR. R. B. GILBERT, Louisville, discussed the general symptoms of diseases in childhood:

Fever, as a symptom in children, has a wide range of significance. If an infant has a fever it means either that there is an inflammation somewhere, or that toxemia or sepsis is present. If a fever comes on suddenly following a slight chill, and the temperature rises to 103 or 104 F., one may look for the development of such affections as pneumonia, scarlet fever, measles, malaria, tonsillitis or diphtheria. If the child rolls its head from side to side and clutches its head with its hands, otitis media or acute cerebral or meningeal inflammation may be suspected. Either one or more of the diseases mentioned may be the cause of the fever, but in order to make a diagnosis the physician must go much further and examine his patient's throat, ears, lungs, etc., for differential points and symptoms.

Relation of Rachitis and Osteomalacia.

DR. C. B. CREECH, Middlesburg: In my opinion, a close relation exists between osteomalacia and rachitis. The etiologic factor is a general toxemia. It is a chemical poisoning produced by impaired metabolic processes. This derangement of metabolic processes may be produced by either an excess or deficiency of either fats or proteids, unhygienic environment, or insufficient exercise, and is not always due to any of these factors. The toxic products of faulty metabolism circulating through the system interfere with the reparative processes of bone—deposition of lime salts. Because of the interference with calcification in children, their bones remain soft and flexible. The toxic element by its irritating effect produces also a hyperemic condition of the bones. In adults catabolic changes are constantly taking place, and if there is no reparative process to maintain the equilibrium, the inevitable result will be decalcification of the osseous system. The greater frequency of these pathologic changes in children and the pregnant woman is attributable to the fact that they are most susceptible to various toxemias and disorders of metabolism.

Discussion on Symposium on Diseases of Children.

DR. MCDONALD, Westfall: When we think that the men of the future are the children of to-day, we begin to realize how important the management of these little fellows is in their infancy. When we cut out the food from the children in the country as Dr. Barbour advises, I am afraid we will have no more great men, for bacon and beans in the winter are the staple articles of diet and molasses and bread constitute the rest of it. In reference to comparative doses for children, experience teaches us the dose to give. Children have their idiosyncrasies, and within certain limits we know the dose, but it is often necessary to increase it. Young children often stand certain medicines better than older children.

DR. R. B. GILBERT, Louisville: The point that Dr. Creech makes in his paper is that the rachitic condition of the child is due to chemical changes arising from metabolic changes. I do not think we have a disease that is simpler in its pathology and easier to treat than rickets. If the infant is eating food that is wholesome, but is given an excess, which is shown by the poor elimination of that food from the alimentary tract, the presence of these acids will decompose the lime salt, making it neutral, and therefore the bone gets an insufficient supply. The carbonic acid is displaced by other acids, and it is the carbonic acid which holds the lime together. This change in the metabolism Dr. Creech attributed to the

use of an excessive amount of fats. It is not so much the fat as it is the undigested food.

DR. W. W. ANDERSON, Newport: Children respond quickly, sharply and forcibly to disease and also to drugs. The action of toxins, or the various pathologic germs, and the action of drugs are prompt in childhood because probably the absorption is rapid, and possibly also because the power of resistance of the nervous system is greater. Therefore, when we are called to a child and find a temperature of 106 F., we should never throw up our hands in despair by any means. High temperature does not usually mean so serious a condition in the child as it does in the adult. Serious bronchitis may exist in an idiotic or degenerate or insane person and be accompanied with very little cough. That is one reason why pulmonary trouble gets such a start because they do not talk. Their nervous systems do not so readily respond to irritation.

DR. H. D. RODMAN, Bardstown: I think Dr. Barbour was a little too exclusive as to diet. The diet he recommends may do for poorly nourished city babies, but the country babies ought to have a little more meat. I do not think that ham would be very good for a child of that age, but I do believe a little well-cooked steak is good. It is difficult to put a baby on a diet list in the country. We must feed such babies as best we can with what we have, and generally we can get along first rate with any ordinary country food. We have less trouble than the city physicians in that respect from the fact that we can get purer food, food better prepared than the food in the city.

DR. P. H. BARBOUR: In my paper I gave a list of the things that should be excluded. There is no question but that some children can take almost any kind of food and do well on it. I have seen German children in our own city who could eat sauerkraut at 6 years of age, but I would not draw the inference from that that it is good for all children. I do not think pork is good, except as well-prepared bacon. Ham is not very digestible and not very nutritious. It is not a question of unwise eating, but, on the contrary, of doing the best we can for the child. I do not think rickets a mere matter of the deposition of lime salts in the bone. I do not think it is the formation of lactic acid in the bowel. Lactic acid is always present in the child's bowel, and if it is the cause of rickets every child would have rickets. Rickets is a disease of the muscular and the ligamentary systems. It affects the stomach and intestines. It affects the nerve centers, predisposing to convulsions. I have not yet found any author who could give a real reason for rickets. Some claim it is too much fat, and others that it is too little fat. Some claim it is too much proteid, while others claim that it is too little proteid. The question has not yet been properly answered.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

Fifty-eighth Annual Session, held at Cambridge Springs, Sept 14-17, 1908.

(Continued from page 1357.)

Acute Contagious Conjunctivitis.

DR. OLIVER H. FRETZ, Quakertown: In acute epidemic disease popularly known as "pink-eye," the active causative agent is a small bacillus. The duration of the disease is from ten days to a fortnight, and it is contagious only so long as secretion is present. Relapses occur, and one attack does not insure against subsequent ones.

DISCUSSION.

DR. WENDELL REBER, Philadelphia: From the carelessness in public bath-houses, acute contagious conjunctivitis has been spread. I believe that further study would throw interesting light on the condition.

DR. L. LEO DOANE, Butler: It is not possible that many of these cases were due, wholly or partially, to the pneumococcus.

DR. W. REBER, Philadelphia: Dr. All of St. Louis has reported 90 per cent. of the cases as due to the pneumococcus.

DR. E. B. HECKEL, Pittsburg: The microscope is the final aid in arriving at a diagnosis, but it is a question whether or not the smears are always reliable. It is important to look after the nasal cavity and the neighboring sinuses. It is a mistake to split the canaliculus, save as a last resort.

Importance of Rhinoscopic Examination of the Sphenoethmoidal Region in Meningitis of Doubtful Origin.

DR. ROSS HALL SKILLERN, Philadelphia: The principal predisposing cause is a congenital defect in the osseous wall of the sinus, whereby the infection spreads by continuity to the base of the brain. A second cause is a peculiar susceptibility of the individual for the attacking germ. A third is constituted by defects in the ethmoid and sphenoid. Exciting causes depend on occlusion of the drainage passages and on special virulence of the infectious material. It is not necessary for complete stagnation to be present, in order to have pressure symptoms. The prodromal symptoms are the most important, but in the majority of cases the patients do not seek medical advice until the stage of cerebral irritation is reached, the prominent nasal symptoms being attributed to ordinary colds.

DISCUSSION.

DR. GEORGE M. COATES, Philadelphia: Dr. Skillern had failed to mention the ophthalmic symptoms that are practically constant with cerebral complications from sphenoidal empyema.

DR. R. MILLIGAN, Pittsburg: In a case in which the diagnosis was doubtful, the child died, and extensive cavernous sinus thrombosis was found. The infection must have come through the nose.

DR. M. V. BALL, Warren: Can anything be done in cases of cavernous sinus thrombosis due to infection.

DR. SKILLERN: Nothing can be done unless the disease is recognized before the sinus is attacked.

Diseases of the Nose in Children from a General Medical Standpoint.

DR. DANIEL LANGTON, Shenandoah: There is a prevailing lack of knowledge of the anatomy of the nose among general practitioners, and frequently culpable indifference is shown by many of them in treating nasal disease in children, treatment is a necessity in such cases.

DISCUSSION.

DR. G. R. S. CORSON, Pottsville: It is important to examine the nasal chambers of all children suffering with so-called sore eyes, especially ulcerative keratitis. The nose should never be examined, especially in children, without having been protected by the use of cocain. In treating the nose, I prefer oil to the powder, as the oil will more rapidly spread over the membrane.

DR. L. LEO DOANE, Butler: The attention of general practitioners should be directed to the significance of one-sided purulent rhinitis in children.

DR. CLARENCE M. HARRIS, Johnstown: Too much stress can not be laid on conditions of the nose and throat in children, especially in mountainous regions.

DR. ROSS HALL SKILLERN, Philadelphia: If at the time a child receives an injury of the nose he were to be examined and proper measures instituted, a great many divisions of the septum would be overcome in early childhood.

Aural and Laryngeal Complications of Typhoid Fever.

DR. JOSEPH GIBB, Philadelphia: The laryngeal complications of typhoid may be divided into three groups; the first including simple catarrhal and edematous cases; the second, all forms of ulceration, superficial and deep, and the third, all paralyses. Aural complications of typhoid include impairment of hearing, hemorrhage from the middle ear, acute inflammation of the middle ear, and mastoid inflammation.

DISCUSSION.

DR. EDWIN ROSENTHAL, Philadelphia: I regret that Dr. Gibb had not finished the laryngeal portion of his paper, as I have seen many cases in which intubation was done too late

to be of use. The fact that 20 per cent. of typhoid patients have aural or laryngeal complications is enough to make one study them more specifically.

DR. G. HUDSON-MAKUEN, Philadelphia: I am aware of the diculties in determining the exact etiology of the deafness in many cases of typhoid.

Nasal Respiration; Its Relation to General Diseases.

DR. G. R. S. CORSON, Pottsville: Owing to the peculiar anatomic structure of the nasal cavities, the inspired air, in passing through them, is prepared for its purpose of the oxidation of the end-products of metabolism. Hence, any alteration of the structure of these cavities interferes with that important function. A gastrointestinal catarrh is usually set up, which interferes with the general nutrition, with resulting anemia and lowered vitality.

DISCUSSION.

DR. LEWIS H. TAYLOR, Wilkes-Barre: The removal of adenoids is a safe and simple operation; that is, in the hands of a skillful operator. Much damage might be done, if the throat were rudely invaded by one not acquainted with the anatomic structures involved. It is an important operation and should always be done under general anesthesia.

DR. EARLE W. BOLTON, Oil City: The general practitioner has not done his whole duty when he has removed adenoid growths, particularly in children from 10 years old up. The patients should be sent to a dentist, who should readjust the arch. In some cases the dental arch has been brought down half an inch by the adjustment of a proper appliance.

DR. RUFUS B. SCARLETT, Philadelphia: I operated on adenoids in a little girl, with the result of improving her hearing so much that, a week later, on the Fourth of July, the noise of the fireworks caused her so much discomfort that cotton had to be placed in her ears.

DR. J. C. MCALLISTER, Ridgway: Spreading the arch in a number of cases has afforded better nasal respiration than could be obtained by any other means.

DR. G. R. S. CORSON: The importance of correcting deformities in the arch should be impressed on general practitioners and laymen. I wish that he could emblazon on every house the fact that such a result can be obtained by so simple a thing as the removal of adenoids.

Adenopathy in Infectious Conditions of the Buccal Region.

DR. EDWIN ROSENTHAL, Philadelphia: There was an epidemic among children last winter, the glands of the neck being attacked. I wish to lay stress on the importance of direct examination of the throat, mouth, nose, nasopharynx, teeth, etc., and to the advisability of a bacteriologic examination in all obscure conditions, a symptom of which is enlargement of the lymphatic glands of the neck.

DISCUSSION.

DR. JOSEPH GIBB, Philadelphia: Has Dr. Rosenthal found any suppuration and enlargement of the posterior, as well as of the anterior cervical glands, with retropharyngeal abscess.

DR. ROSENTHAL: I have seen postpharyngeal abscess in one case.

Nasal Accessory Sinus Complications Following Grip.

DR. G. ARTHUR DILLINGER, Pittsburg: The *x*-ray is valuable in making the diagnosis, but there is danger of overlooking a closed ethmoiditis, which is often first diagnosed on the postmortem table. The importance of free drainage of the sinuses in the acute stage should be emphasized.

DISCUSSION.

DR. G. HUDSON-MAKUEN, Philadelphia: The sinuses should be freed, if blocked, so as to avoid nasal complications in grip.

DR. M. V. BALL, Warren: Morphin is less valuable as an anodyne than chloral in such cases.

DR. G. A. DILLINGER: While it is claimed that a definite diagnosis of pus may be made from the plate, the appearance is sometimes due to a thickened membrane. No mistake will be made in operating, however, in either case.

Relation of the Faculty of Hearing to the Faculty of Speech.

DR. G. HUDSON-MAKUEN, Philadelphia: Hearing is largely a mental process, involving the use of the higher intellectual centers of the brain. It varies in different individuals, and its highest and most important function is to regulate the development and production of speech. The character of speech usually reflects the character and degree of hearing, and a faulty or delayed development of speech always a corresponding defect of hearing.

(To be continued.)

AMERICAN ASSOCIATION OF OBSTETRICIANS AND GYNECOLOGISTS.

Twenty-first Annual Meeting, held at Baltimore, Sept. 22-24, 1908.

(Continued from page 1356.)

Ectopic Gestation.

DR. CHARLES L. BONIFIELD, Cincinnati: I divide cases of tubal pregnancy into five classes: First, those in which a slight hemorrhage occurs at an early period, from six to eight weeks, and kills the ovum. Such an ovum with the blood clot may be absorbed and the patient regain her health. Second, those in which the rupture occurs a little later than the eighth or tenth week. In these the hemorrhage is so profuse as to cause well-marked classic symptoms, but is not so profuse as to menace at once the life of the patient. Third, cases in which the patients are in immediate danger of death from hemorrhage. The cases in this class are not numerous, but give rise to practically all the argument as to the relative virtues of immediate and deferred operations. The best course to pursue is to operate at once if the hemorrhage is in progress when the operator sees the case, and to defer operation if it has ceased. In the fourth class there is a living fetus which has developed to the sixteenth week or later. About fifteen years ago I operated in such a case at the sixth month. The child died in a few minutes, and the mother only survived twenty-four hours. Her death was due to loss of blood caused by the separation of the placenta from the intestines and omentum, to which a large part of it was attached. In the fifth class the physician has to deal with a dead fetus which has attained an advanced stage of development. The death of the fetus renders the operation safer for the mother, provided it is not undertaken until a sufficient time has elapsed for a change to take place in the placenta. I have operated on two such cases.

Discussion on Extrauterine Pregnancy.

DR. ALBERT GOLDSPOHN, Chicago: I do not think that all extrauterine pregnancies should be operated on at once. Cases of tubal abortion, in which the ovum slips out of a somewhat dilated abdominal end of the tube, do not bleed very much, nor do they produce profound shock. The natural course is for the hemorrhage to stop by the formation of a hematoma to a limited degree, and there is no danger to life, either immediate or remote. Operation is usually advised in case invalidism results more or less from the cicatricial mass of coagulated blood which will not be entirely absorbed, and which will usually form an entanglement about the ovary. This condition requires operation later. When hemorrhage has stopped and the hematoma is accessible, it can be emptied by the vagina if one makes the proper incision for vaginal drainage. On the other hand, it is not safe to assume that in ruptured tubal pregnancy hemorrhage is going to stop, hence it is necessary to operate.

DR. C. C. FREDERICK, Buffalo: I have operated 133 times for ruptured ectopic pregnancy. There are cases of tubal abortion in which the amount of hemorrhage is so small and finally ceases, that eventually the women get well without operation.

DR. HENRY SCHWARZ, St. Louis: There are several cases on record in which women with tubal pregnancy have gone on to term. I operated on such a patient. The sac was removed in its entirety, opened, and disclosed a mature macerated male fetus above the average weight.

DR. A. B. MILLER, Syracuse, N. Y.: No one can lay down any law which will govern the ordinary practitioner as to the time for operation as he comes in contact with these cases. Some patients with ruptured extrauterine pregnancy undoubtedly may have their lives saved if they are operated on immediately.

DR. WALTER B. CHASE, Brooklyn: Every case must be a law unto itself regarding operation.

DR. MILES F. PORTER, Fort Wayne, Ind.: If a surgeon is called to see a man with a history of having received a stab wound in the neck and has symptoms of bleeding to death, naturally he would search for and tie the bleeding vessel. This is the thing to do in a case of ruptured ectopic pregnancy in which hemorrhage is going on. If one could tell when hemorrhage has ceased, he can wait, but who can tell this?

DR. THOMAS B. NOBLE, Indianapolis: I believe in the doctrine and preach the philosophy of immediate operation in ruptured extrauterine pregnancy, because if the information goes out that these cases are to be treated by procrastination until the diagnosis is certain, these patients will be tinkered with by general practitioners, and the specialist will only be called in to sign death certificates.

DR. FREDERICK BLUME, Pittsburg: I desire to emphasize the importance of differentiating cases which should be operated on from those which should be left alone.

Acute Pancreatitis.

DR. LOUIS FRANK, Louisville, Ky.: Pancreatic disease until recent years has been much neglected, though its study is important. Pancreatic diseases are not all incurable. The anatomic and etiologic factors must be considered, and the necessity of early recognition should be recognized. The treatment is surgical, and in order to be effective it must be prompt.

DISCUSSION.

DR. THOMAS B. NOBLE, Indianapolis: I recall three cases of pancreatitis, two of which were hemorrhagic and one acute interstitial. Two were accompanied by an antedating biliary disease. The first was one of hemorrhagic cyst due to hemorrhagic pancreatitis. The cyst was evacuated, but the patient died eight days later of acute mania. The second case was attended with empyema of the gall bladder, with gallstones and infection therefrom, and presenting widespread fat necrosis. This patient, a woman, recovered. A third was a case of large hemorrhagic cyst in a physician. The condition was diagnosticated as malignant disease, and continued for two or three months. Under local anesthesia the abdomen was opened and a gallon of thick, viscid, tarry fluid was removed from the pancreatic region, but successive hemorrhages occurred until he bled to death.

DR. WALTER C. G. KIRCHNER, St. Louis: I have seen three or four cases of acute pancreatitis, in all of which the patients died at the end of a few days. One was an acute infection of the pancreas, with suppurative changes resulting in fat necrosis. The second was the gangrenous form, and in the third case, which I saw recently, there was a history of gastric hemorrhage. The patient had had several of these hemorrhages. They were not considered serious and operation was deferred, but the patient was taken suddenly ill on the street at 2 o'clock in the afternoon, and at about 3 o'clock, when brought to the hospital, was in a state of collapse, and two hours thereafter died. Autopsy revealed perforative duodenal ulcer, the perforation taking place in the head of the pancreas.

Abscess of Gartner's Canal.

DR. MAGNUS A. TATE, Cincinnati, spoke of the rarity of this condition, and reviewed the literature of the subject. He reported the following case: Patient, a woman, aged 36, normal weight 135 pounds, married fifteen years, had never been pregnant. She had never had any discharge of a bloody character from the vagina, and never had had any of the other symptoms which often accompany a menstrual discharge. For some years she had had a number of peculiar attacks, but did not know what caused them, nor had she ever had any satisfactory causative explanation. The trouble began with a pain in the pelvic region accompanied by rigors, this being followed by distinct chills, rapid pulse and high temperature. This lasted from a few days to a week or two, then there was a vaginal discharge of a little pus, which was always followed by a subsidence of symptoms, and then an apparent recovery, ensued. The patient would then get up, go about her household duties, and be free from another spell for from six months to a year, when she would have a similar attack. She was somewhat emaciated, only weighing about 100 pounds when I saw her, was very feeble, her temperature ranging from 102 to 104 F., and pulse from 120 to 130. Abdominal examination revealed some tenderness over both the right and left lower sides of the pelvis. Vaginal examination was painful, and the patient said that there had been for a few days a slight watery flow mixed with a little pus. The vagina was hot and tender, so that examination was unsatisfactory. The patient consented to go to the hospital. A vaginal examination under anesthesia disclosed a small anteverted uterus, but no tubes or ovaries could be palpated. On the right wall at a central point between the anterior and posterior vaginal walls was found a decided thickening, and on tracing it up, it felt like a ridge of massed tissue which pased up to the side of the cervix in the vaginal vault. As I was still at a loss to account for the symptoms, I opened the posterior cul-de-sac, and on careful palpation thought I detected a small fluctuating mass in the right broad ligament, but no ovaries or tubes were present to the examining finger. After packing some gauze in the back of the uterus I opened up this ridge of vaginal ligament as far as possible. I thought best at this time to stop and make an abdominal section later if the woman's condition would allow it. The following day the gauze which had been placed in ridge tissue was bathed in pus which was constantly being discharged. The temperature subsided and the patient recovered. For nine months her health has been excellent; no pain or tenderness; no vaginal discharge; she has gained her usual weight, and is normal except for the absence of menstrual flow.

Cesarean Section.

DR. C. C. FREDERICK, Buffalo, N. Y.: Until recent years Cesarean section was appealed to only as a last resort in obstetrics, but now it is as safe as any other abdominal operation, if done early. The consensus of opinion is becoming favorable to Cesarean section as being preferable in contracted or deformed pelves, to protracted high forceps operation, version, symphyseotomy or pubiotomy. Is it not preferable also to accouchement force in severe uremic convulsions or in placenta prævia with central implantation?

Development of the Human Ovum During the First Eight Weeks of Pregnancy.

DR. HENRY SCHWARZ, St. Louis: All text-books of obstetrics describe the ovum and fetus at the end of ten periods of twenty-eight days each; and, without exception, they all declare the ovum to be the size of a pigeon's egg, and the fetus of a length of from 7 to 10 mm. at the end of the first lunar month, that is to say, before the woman's menstruation is overdue. The fact is, the youngest ovum on record, that of Peter, which was the size of a hemp seed, was found when menstruation was three days overdue, and belongs, therefore, to the middle of the fifth week of pregnancy, or to the beginning of the second lunar month. At the end of the first lunar month the ovum is still a very small body, and passes through the uterine end of the tube just about the time when menstruation becomes overdue. All ova varying in size from a millet seed to a hen's egg belong to the second lunar month, and their description has to be rearranged. I believe and have taught for twenty-five years that ovulation, as a rule, precedes menstruation, and that the impregnated ovum dates from the first menstrual period which has been suppressed; that during the first lunar month of our present counting pregnancy exists only during the last few days, and that during these days the ovum migrates through the tubes without noticeable increase in size, reaching the uterine cavity about the day of the expected menstruation, and there casting off its shell of zona pellucida, as demonstrated by Spee for the ovum of the guinea-pig.

President's Address: Solving the Problem of Obstetrics.

Dr. E. Gustav Zinke, Cincinnati., in his presidential address, reviewed at length some of the important events in medicine and surgery of the last 100 years. He compared the old and new methods of managing the pregnant, parturient and puerperal states, and referred to the changes in the practice of midwifery within the last fifty years.

There is practically no improvement in the maternal and fetal mortality and morbidity of midwifery during the last twenty years. The present rate of obstetric mortality follows immediately that of tuberculosis. Eclampsia, placenta prævia, oblique and transverse presentations, narrow and contracted pelves, are conditions which precipitate in every instance a conflict unto death between mother and child. The problem of presenting this conflict is gradually being solved by the aid of anesthesia, antisepsis, asepsis, the forceps, symphyseotomy, pubiotomy, hebosteotomy and Cesarean section. The gradual elimination of the induction of premature labor, prophylactic version, the high forceps and perforation of the living child has begun.

The problem of obstetrics will be solved when the custom of sending the pregnant and parturient women—victims of complications—to a maternity has become an established practice.

Intraligamentous Fibroids.

Dr. John F. Erdmann, New York: During the past seven years I have operated on 61 cases of fibroids, doing 48 hysterectomies and 13 myomectomies. In this entire number there were five cases of intraligamentous fibroids, one of which was a case of multiple fibroids of the uterus, with two discrete ones in the right broad ligament. The remaining four were true intraligamentous fibroids in the full sense of the word. None of these intraligamentous masses in any of the five cases had any association with the uterus except one, in which the association was due to an inflammation occurring in the pelvis, and an exudative or plastic adhesion to the uterus was evident. In four of these cases the tumors were hard or of the same consistency as ordinary fibroids. In the large round one the feeling is of a decidedly soft nature.

Uterine Fibroids Complicating Pregnancy.

Dr. William J. Gillette, Toledo, Ohio, after reporting some cases in the presence of a pregnancy, asked:

"Should operations for removal of fibroids be limited to the fifth month? If not, and limited to any time, what should that time be? Not only pedunculated and subperitoneal tumors may be removed, but interstitial as well, without the interruption of pregnancy. Even very small fibroids may be so situated as to become of lethal significance. Fibroid tumors may practically disappear at this time or shortly subsequent to it. It may be possible to remove pedunculated fibroids during labor, thus allowing labor to progress naturally.

Ovarian Cystoma Complicating Pregnancy.

Dr. Charles G. Cumston, Boston: The indication for operative interference during pregnancy is usually the severity of the symptoms. The cyst should be removed by abdominal incision or posterior colpotomy, according to the size and situation of the neoplasm. Cooling of the abdominal cavity is to be avoided during operation, and it is an important factor in the production of premature labor. The favorable results obtained when operation is done during the first few months of pregnancy are not accidental, and a timely removal of the cyst may prevent threatened miscarriage. Operation should be advised as soon as a diagnosis of cyst has been made, in order to avoid complications due to the presence of the tumor during pregnancy, labor or the puerperium.

Subdiaphragmatic Abscess.

Dr. John W. Keefe, Providence, R. I.: An abscess of this character is a collection of pus, or pus and gas, which lies in contact with some portion of the under surface of the diaphragm. It is rarely the result of a traumatism, but is generally due to some previously diseased condition. The main facts to be emphasized are the avoidance of the transpleural route; the dangers attending the use of the aspirating needle and the unnecessary resection of the ribs; exploratory abdominal incision with drainage through the same, or in the tenth or eleventh interspace, in the postaxillary line.

Injuries to the Bladder Taking Place During Hernia Operations.

Dr. Roland E. Skeel, Cleveland: Since the appearance of Bruener's article in 1898 and Moynihan's in 1901, bladder hernias are apparently increasing in frequency, as shown by 144 cases collected since 1896, as compared with the 181 in the literature previous to that date. These hernias are no more frequent than before, but present methods of operating as well as increased care in looking for them account for the more frequent reports. The cases reported show a large proportion not diagnosed until operation, and, unfortunately, a great number are not recognized until the bladder is injured, and a fair percentage are not recognized even at the time of injury. Many of these cases are artificially produced by traction on the sac, and efforts to place the ligature high up result in catching the bladder wall in its bite. In addition to the ordinary method of recognizing the bladder by the appearance of the prevesicle fat and the large veins in the fundus, the administration of methylene blue for a day or two previous to hernia operations will cause instant recognition of the bladder injury if it occurs. Such a routine measure is justified by the fact that the mortality rate for hernia operations is practically nil aside from accident.

Surgery of the Spleen with Special Reference to Trauma—A Method of Encapsulation.

Dr. Walter C. G. Kirchner, St. Louis, reported 22 cases of injury to the spleen treated by splenectomy and other methods, and after describing the various symptoms of injury to the spleen, outlined a method of treating hemorrhage from the spleen by encapsulation.

In this operation the spleen is brought forward and delivered into the wound as in splenectomy. Wide sutures are inserted through the spleen to approximate the fractured or cut edges, and these sutures are also used to retain the omentum, which is wrapped over the spleen to form a sort of capsule. The organ is then replaced in the splenic fossa, and held in position by means of packs. I have treated a case of gunshot wound and two cases of rupture of the spleen by this method, with recovery.

The seriousness of injury of the spleen should be emphasized, and I advocate early operation. If the spleen alone is involved, and the patient's condition warrants, the method of encapsulating the spleen with omentum is advisable for the following reasons: the spleen need not necessarily be sacrificed in the control of hemorrhage; a portion of the spleen may be removed, and when thus treated splenectomy need not necessarily be performed; the danger of secondary hemorrhage is very greatly lessened, and favorable results in suitable cases warrant a continuation of the use of the method.

Treatment of Typhoid Perforation.

Dr. John D. S. Davis, Birmingham, Ala.: I have operated on 10 patients with typhoid; in 9 of whom perforations were found, with 8 recoveries and 2 deaths. One typhoid patient was operated on, with recovery, in whom no perforation was found. Two patients had perforations of the ileum; one had a perforation in the ileum and at the base of the appendix; one had two perforations of the colon ascending and transverse. Four perforations were appendicular; one of these patients later had a perforating anastomosis between the ascending and transverse colon. In the last fatal case there were two perforations in the ileum. In the prognosis, the physical condition and power of resistance of the patient, character and virulence of the organism, age of patient, time elapsing between perforation and operation are important factors in determining the result.

Perforation occurs in all grades of severity from the ambulatory to the hemorrhagic type, but is most common in severe infections. The ileum is the common site of the perforation, the majority of cases occurring within twelve inches

of the ileocecal valve. Prognosis is more favorable in young individuals than in older patients. The character and extent of the peritoneal involvement will depend largely on the character of the infection. The chief points in diagnosis are the pain and muscular rigidity; pain being much less reliable than the rigidity. Temperature is not significant, though a sudden drop is an indication of abdominal involvement. Blood examination is of little importance. After the operation the patient should be placed in the Fowler or Murphy position to facilitate drainage, and physiologic salt solution used if necessary for stimulation. Strychnin and digitalis are rarely necessary. Purgation should not be employed. Stomach lavage for nausea and vomiting should be repeated at necessary intervals and all food should be withheld until the patient recovers sufficiently to retain and assimilate it.

Some Old Fallacies in Retroversion Surgery Revived.

DR. ALBERT GOLDSPOHN, Chicago: It is an anatomic fact that the round ligaments of the uterus, irrespective of what may be their normal function ordinarily, are the only available means or medium for a harmless and permanent cure of retroversion in fruitful women, because they alone among the various uterine attachments are a part of the uterus itself, and as such undergo evolution and involution with that organ during and after gestation. Years of abundant clinical experience has set forth the great practical value of this anatomic fact. This experience has been dearly paid for by numerous parturient deaths from dystocia following vicious surgery for a minor ailment which, in itself, will never cause death. Nevertheless, two articles have recently appeared which rather ignore the above-mentioned experience, and the authors advocate principles and procedures which gynecologists have thrashed out and discarded some time ago.

Typhlitis.

DR. JOHN A. LYONS, Chicago: All cases of typhlitis and perityphlitis need not necessarily be secondary to appendicitis, and I desire to report a case of abscess of the cecum in support of this claim. The patient, aged 16, had suffered for several months from what were supposed to be recurrent attacks of appendicitis, and during the last one, in November, 1907, I was called and found that the patient had suffered from sudden severe abdominal pain; nausea and vomiting; general abdominal sensitiveness over the appendix, and elevation of temperature to 102 F., soon after the onset of the severe pain. These are Murphy's cardinal symptoms of appendicitis, and I made a diagnosis of appendiceal abscess because of a large fluctuating mass involving the entire iliopsoas region, the patient was ordered to the hospital, and after a hurried preparation I made an incision over the tumor, when, to my surprise, I found a large abscess of the cecum. The appendix was in its usual position and apparently normal in every respect, except where it was about to be involved at its extreme distal end in the perityphlitic inflammation. After cleaning out the abscess cavity, cutting away all gangrenous, loose and raw edges, I removed the appendix, which, on examination, proved to be normal, except as above noted. A peculiar feature followed the operation, in that the patient, who had suffered from childhood with enuresis, wetting the clothes both night and day, has been entirely relieved of this annoying condition, it not having recurred since the operation. I account for the cure of the enuresis by the theory that ganglionic sympathetic fibers joined to the fourth sacral nerve, which latter supplied the neck of the bladder, must have been released from abnormal pressure by the complete cure of the inflammatory product.

Repair Rather Than Removal of the Generative Organs of Women.

DR. JOHN E. CANNADAY, Charleston, W. Va.: Pelvic inflammation, especially that of the gonorrheal type, should be left to Nature, and the results of infection treated by operation, if need be, later. The need of treating certain cases of infection in accordance with the social condition of the woman, should be borne in mind. The time requirements of palliative treatment are being extended, and I desire to point out the advantages of not operating until physiologic resistance to infection has been well established. Much of the so-called palliative treatment is useful only as a means of diverting the mind of the patient. Subinvoluted prolapsed organs after suspension and perineorrhaphy will, as a rule, be speedily restored to normal size by the relief of congestion incident to malposition. Local infections may best be attacked by local applications. Repair rather than removal is to be commended in general.

Abdominal Supporters After Laparotomy.

DR. ROBERT T. MORRIS, New York, described a series of experiments which he has conducted on animals which show that it is unnecessary to subject patients to the annoyance of abdominal supporters so frequently as is commonly proposed. The author does not employ them in 1 per cent. of his laparotomies.

Other Papers Read.

The following papers were also read: "Factors of Safety in Abdominal Operations, Based on Operations," Dr. George W. Crile, Cleveland, Ohio; "Report of a Case of Gastric Tetany; Operation; Recovery," by Drs. John Young Brown and William Engelbach, St. Louis; "Myoma of the Cervix Uteri," by Dr. Francis Reder, St. Louis.

Medicolegal

Osteopaths According to New York Decision.

The Supreme Court of New York, Appellate Division, Second Department, says that the case of Bandel vs. the Department of Health of the City of New York was brought to require, by mandamus, the registering of a licensed and practicing osteopath in the list of physicians and the acceptance from him of death certificates the same as from physicians not osteopaths. The court affirms an order granting the writ, on the opinion of Justice Dickey of the trial court. He says that in his opinion the lawmakers intended to and did make osteopaths practitioners of medicine and also made them physicians, because Subdivision 8 of Section 1 of Chapter 344 of the New York laws of 1907 says that a physician means a practitioner of medicine. It was claimed that the practice of osteopathy first began in the state of Missouri. By the statutes of that state it is specifically provided that osteopathy is not the practice of medicine. It was in the power of the New York legislature to make a similar provision, but it did not do so, but, on the contrary, it defined the practice of medicine so that it must be interpreted to include the work done by osteopaths in the practice of their profession. The sanitary code of the City of New York provides that the word "physician" shall include every person who practices about the cure of the sick and injured or who has charge of any person sick, injured or diseased, etc. So it is clear to my mind, the justice goes on to say, that osteopaths are physicians and practice medicine, and, except for the restrictions put on them by Chapter 344, prohibiting them from administering drugs, and performing surgery with use of instruments, they are entitled to all the rights and subject to all the penalties of other physicians and medical practitioners. The fact that their degree is O.D. instead of M.D. makes no difference so far as their right to register and grant death certificates is concerned.

Damages for Injuries Causing Neurasthenia or a General Breakdown.

The Supreme Court of Washington says that the testimony in the personal injury case of Garthley and wife vs. Seattle Electric Co. showed that Mrs. Garthley was at the time of the accident a woman 39 years old, a woman of unusually good health, and of extraordinary strength of body; that at the time of the trial she was in reality a physical, if not a mental, wreck. It was testified to by the physician who had attended her from the time of the accident until the time of the trial, and who was still in attendance on her, and also by the physicians who were appointed by the court to examine her, and

who were introduced by the plaintiffs, that she was in a neurasthenic condition. It was true the physicians testified that there were no objective symptoms of this disease, and that their determination of the fact that she was suffering from it was largely induced by the statement and actions of the woman herself, yet they testified that in their opinion she was honest in her statements, and that there was no indication of fraud or pretense on her part. The testimony showed that at the time of the accident her hair was coal black, and that between the time of the accident and the trial it had turned gray; that she had suffered for three months to such an extent that she was unable to leave her bed, and that the suffering had continued at intervals of from two to three days in each week ever since; that from a woman of remarkable strength and activity she had degenerated into a woman who was not able to do her housework, who was in constant pain, who had to be waited on almost like a child, who had become prematurely aged, and who had lost her sexual powers and desires. The case was tried to a jury, and a judgment rendered for $5,410, which was reduced by remission to $4,000, of which latter sum the Supreme Court approves, declaring that it was not prepared to say that it was too large.

Power of Courts to Order Physical Examinations.

The Supreme Court of Colorado says, in Denver City Tramway Co. vs. Roberts, a personal injury case brought by the latter party, that among the assignments of error was one that challenged a ruling in the trial court refusing to grant an order for a physical examination of the plaintiff touching her alleged injuries by a surgeon of the company's selection or by one of the court's selection. The application for the order was made in due form, and with reasonable diligence. Motions of this kind are addressed to the sound discretion of the trial court, and, unless there is an abuse of such discretion or unless it clearly appears that that court misconceived the law, this court will ordinarily decline to set aside the ruling thereon. In this case, however, the record showed that the court below did not exercise his discretion at all. His action was predicated exclusively on the view that as a matter of law he possessed no legal power or authority to grant the motion or make the order requested. The complaint alleged that the injuries suffered were permanent; and a portion of the evidence offered on behalf of the plaintiff tended to support this allegation. The nature and extent of such injuries, together with the permanency thereof, are matters to be determined largely from the testimony of skilled physicians or surgeons. The object of the court and jury is always to ascertain the truth, and through such ascertainment to administer accurate, as well as impartial, justice. But the trial of these cases exclusively on the testimony of surgeons chosen by the plaintiff would often prevent the ascertainment of truth and visit injustice on the defendant. A physical examination by the defendant's surgeon or by a surgeon of the court's selection would seem to be a wise and a just precaution. Nevertheless distinguished tribunals have denied the right thereto. This court, however, has declined to follow such tribunals. In the recent case of Western Glass Mfg. Co. vs. Schoeninger, the subject was exhaustively considered and the power of trial courts to order such examinations was expressly upheld. Therefore the refusal in this case of the lower court to grant an order for an examination for the reason stated was error.

No Liability Attaches to Merely Requesting Physician to Attend Patient.

The Supreme Court of New York, Appellate Division, First Department, says that the case of MacGuire vs. Hughes was brought to recover for medical services, alleged to be reasonably worth $3,000, rendered in the treatment of the defendant's daughter. There was no express promise by the defendant to pay the plaintiff for his services. There was great anxiety about the daughter and her condition shown by the defendant, and an ardent desire that the daughter should receive the benefit of the plaintiff's professional skill and experience. The plaintiff knew that the patient that he was asked to attend was married and living with her husband, and he refused to attend the patient without her husband's consent. The husband's consent was obtained, and there then arose the obligation on the part of the husband to pay for the plaintiff's services to his wife. When that consent was obtained, the plaintiff at once consented to see the patient. He exacted no promise from the defendant as to compensation; nor was there anything said from which there could be implied an understanding that the services were to be rendered for the defendant, and not for the patient and her husband. He required the consent of the patient's husband to accept the employment, and continued in charge of the case to the end under such consent. There was therefore nothing, as the court views it, in this case which raised a presumption that the plaintiff's services were rendered to the defendant, or that the defendant promised to pay for them; and it is held that it was error to deny a motion to dismiss the complaint.

The question presented, the court says, was whether a person is responsible for merely requesting that a physician attend a patient for whom the person making the request is under no obligation to supply medical attendance. The court thinks that question has been conclusively determined in the negative in New York state and in England.

The principle established in certain cases referred to, which is a simple restatement of the common law, the court says, is that a simple request to perform services for another to whom there exists no obligation of any kind to furnish the services does not create an implied obligation to pay for such services by the person making the request, and that a promise to pay can not be implied from a simple request that the services be rendered; and the court apprehends that this principle is not peculiar to the relation of a physician and his patients, but extends to all cases where services, personal in their character, are rendered by one person to another.

This is the decision by three members of the court, the other two maintaining that the plaintiff made out a prima facie case of hiring by the defendant. They say that the only principle to observe in determining whether the parent is liable to pay in case of necessaries like medical attendance is the presumption that the contract was made by the parent in behalf of the person primarily liable, which in this case was the husband of the daughter. The moment that presumption is overcome the contract of hiring must be given effect and the parent must pay.

Current Medical Literature

Boston Medical and Surgical Journal.

October 8.

1. *Tumors of Adrenal Origin—with Particular Reference to Hypernephroma of the Kidney. H. C. Moffitt, San Francisco.
2. *Relation of Carcinoma of the Corpus Uteri to Fibroids. J. T. Williams, Boston.
3. Fracture of Lower Epiphysis of the Tibia. F. S. Coolidge, Pittsfield, Mass.

1. **Hypernephroma of Kidney.**—Moffitt says that it is interesting to note that in malformations of the brain—failure of frontal lobes to develop, hemicephalia, microcephalia, cyclopia, aplasia or hypoplasia of the adrenals is the rule. In monsters without sexual organs the adrenals are nearly always absent. Moffitt emphasizes the importance of accessory adrenals, and then devotes his paper to a consideration of the clinical vagaries of hypernephroma. He reports a series of cases and passes in review the most important points in the diagnosis of hypernephroma. 1. Hematuria is the most common symptom and may often be the first, and pain is its frequent accompaniment. Hemorrhages at long intervals rather favor the diagnosis of hypernephroma. The physician should regard every hematuria with suspicion. 2. Pain may be an early symptom, and may long precede other symptoms. 3. The tumor may vary greatly in size and a rapidity of growth. In addition to pain, the tumor frequently gives rise to other pressure symptoms—dilatation of the abdominal veins, edema of the feet, thrombosis of the femoral vein. 4. Metastases are most often found in the lungs, liver and bones. Pulsating bone tumors should arouse suspicion of metastases from either adrenal or thyroid. 5. Pigmentation has been observed in but few

cases of hypernephromata. 6. Trophic changes—abnormal development of genitalia or of general overgrowth—are associated with tumors of the adrenals, and hypertrichosis has been observed in both children and adults. 7. The urine may be normal throughout years, despite the presence of a renal tumor. Albumin may be caused by inflammatory changes, polyuria is not an uncommon symptom. 8. *X*-ray plates are of value in differentiating the hematuria of stone. Lumbar exploration will be rarely necessary if all modern methods of diagnosis are employed. Moffitt quotes the results of operation, and says that their disheartening character in the past should spur on the clinician to try all methods that may lead to early recognition of the growth.

2. **Carcinoma of the Corpus Uteri and Fibroids.**—Williams' considerations, based on a collection of 248 cases of associated adenocarcinoma and fibroids, lead him to the following conclusions:

1. There is a distinct relationship between carcinoma of the corpus uteri and fibromyomata.
2. This relationship probably lies in certain common etiologic conditions.
3. The predisposition of fibroids to become complicated with cancer does not constitute an indication for their routine removal as soon as discovered, providing the patient can be kept under close observation.
4. Any marked increase in the loss of blood from a fibroid, or the appearance of any vaginal discharge in the intervals between the hemorrhages should be regarded as suggestive of the development of carcinoma.
5. In a fibroid when either of these symptoms is present an immediate curettage should be performed in order that the condition of the endometrium may be examined, even if a radical operation has been decided on.
6. Every uterus removed for fibroids should be immediately opened by an assistant and the endometrium inspected to guard against possible oversight of a malignant process.
7. In all cases of fibroids complicated by adenocarcinoma of the corpus a complete removal of the uterus including the cervix is the operation of choice.

Medical Record, New York.

October 10.

4. *Duties of the Medical Profession to the Public. M. A. Starr, New York.
5. Present Status of the Radical Mastoid Operation for Cure of Chronic Purulent Otitis Media. W. C. Phillips, New York.
6. *Hydrotherapy in Treatment of the Insane. G. Stockton, Columbus, Ohio.
7. *Study of the Diathetic States. C. T. Nesbitt, Wilmington, N. C.
8. Three Cases of Cephalocele in One Family. J. Phillips, Cleveland.
9. Treatment of Secondary Anemia of Tuberculosis with Hypodermics of Iron. L. S. Peters, Silver City, New Mexico.

4. **Medical Profession and the Public.**—Starr discusses the duties and opportunities of the medical profession in relation to the public, and details the directions in which the public requires education by the profession; the legislature requires its assistance in framing laws; and the individual will come to rely on it more and more for personal direction. In regard to the fact that judicious and well-considered legislation may in itself become an efficient educator, he cites the following specific cases ("Diseases of Occupation."—Oliver): In Staffordshire, England, over 50,000 persons are employed in the manufacture of china and earthenware. Ten years ago the large number of cases of lead poisoning in this district caused so much comment and criticism that the Home Secretary appointed a commission to ascertain how the danger might be removed. That commission recommended that the percentage of lead could be much reduced in the glazes and in some could be eliminated. The manufacturers protested, maintaining that their methods could not be changed. The matter was finally arbitrated, and the result was that lead employed in the process was reduced from 20 or 15 per cent. to 5 per cent., a monthly medical examination of workers was made obligatory, overall and head coverings were provided and maintained by employers for women, respirators were to be worn by persons specially exposed, and the floors of workrooms were to be sprinkled and swept daily, and a scheme of compensation for lead poisoning was arranged. Under these rules the trade has been working since 1903, and the number of cases of lead poisoning has been reduced over one-half. This illustrates how legal enactment is necessary in some cases to enforce conditions that are needed for the prevention of disease.

6. **Hydrotherapy in Insanity.**—Stockton discusses the applications of hydrotherapy in neurasthenia and certain forms of insanity. Hydrotherapy to-day is largely administered on a physiologic basis. Almost every organ of the body is in reflex relation to the adjacent skin. Among the effects obtainable by water may be mentioned the following: Tonic, sedative, eliminative, diuretic, expectorant, antipyretic, antiphlogistic, hemostatic, hemagogic, analgesic, vasodilator, constrictive, etc. Stockton discusses its method of application and use in neurasthenia, insomnia, melancholia, dementia præcox, hysteria, puerperal insanity, etc. It can not, however, be properly applied unless the physician has skilled operators to carry out his directions, but while a medical man should have general supervision and should be capable of prescribing certain baths, indicated in various forms of insanity, nevertheless a great deal of latitude should be allowed to those who administer the treatment.

7. **Diathetic States.**—Extended inquiry has led Nesbitt to the conclusion that the diatheses make possible the establishment of the great majority of diseased conditions in which there is progressive, structural degeneration. It must, therefore, be possible to determine the relationship existing between the depraved nutritional states and the diseases, and to prevent their development in the young. He adopts Bouchard's classification of diatheses into scrofulosis and arthritism, and considers that the investigator should be able to arrive at a reasonably sure conclusion from such data as height, weight, color of hair, eyes, habits, temperament, illness, etc. He has adopted this course in collecting the cases now presented, and has not included any in which he could not reasonably establish the health states in a majority of the individual progenitors. The history of the heredity element in cancer cases led him to the following conclusions:

The development of malignant neoplasms is furthered, if not caused, by the admixture of the two diathetic states in procreation.
The preponderance of scrofulosis in the diathetic history is probably essential to the production of cancer.
The great majority of cancerous individuals are the result of procreation by two, of whom one is arthritic and the other scrofulous.
Transmission of diatheses is most often from father to daughter, and from mother to son, as has been determined with reference to other hereditary transmission.
Preponderance of arthritism over scrofulosis in the ancestry of an individual is a possible factor in the production of renal cancer, when the individual has had a cancerous ancestor.

The conclusions he draws from his diabetes cases are:

Diabetes mellitus is possibly the result of the transmission of the arthritic diathesis through several generations, in which there has been little or no marital admixture of scrofulosis.
Scrofulosis is unimportant in the etiology of this disease.
The production of diabetes mellitus in the majority of instances depends on the further development of the nutritional fault that has been inherited.

From his investigations into nephritis he concludes as follows:

Intensification of the arthritic diathesis through hereditary transmission is the most probable predisposing cause of chronic progressive renal degeneration.
Alcoholism in the ancestral and personal history of the individuals who are essentially arthritic, is the most important precipitating cause of chronic nephritis.
It is possible that alcoholism and renal disease combined in the heredity of an individual predispose to the parenchymatous type of nephritis.
The other etiologic factors recognized in the production of chronic nephritis are secondary in importance, and contribute in a general way only to the development of the disease.
Scrofulosis is important in the etiology of nephritis as a remotely contributing factor.

9. **Hypodermics of Iron in Tuberculous Anemia.**—Peters concludes from 42 cases of secondary anemia accompanying tuberculosis, that excellent results can be obtained by hypodermic injections of iron. The results are obtained in nearly every case with 20 injections. The following formulas are used:

	Gm.	Gr.
1. Iron citrate	.05	3/4
2. Iron citrate	.05	3/4
Sodium arsenate	.005	1/12
Strychnin sulphate	.0005	1/100
3. Iron citrate	.05	3/4
Sodium arsenate	.001	1/30
4. Iron citrate	.05	3/4
Strychnin sulphate	.001	1/30

The citrate of iron is the one best suited for anemia alone. By using the preparation of iron, strychnin and arsenic, one gets the action of iron plus the tonic effects of the arsenic and strychnin.

New York Medical Journal.

October 10.

10. Mechanico-Biologic Standpoint in Medical Problems. J. Wright, New York.
11. Urologic Department of the German Dispensary. F. Bierhoff, New York.
12. *First American Medical School. J. J. Walsh, New York.
13. *Stomach and Intestinal Gases. S. Basch, New York.
14. *Electrotherapeutics. M. K. Fisher, Philadelphia.
15. *Conservatism in Surgery of the Hands. J. A. Hofheimer, New York.
16. Splenic Anemia. Splenectomy. Blood Changes. I. H. Levy, Syracuse.

12. **The First American Medical School.**—It is commonly said that the first courses in medicine in America were delivered in Philadelphia in 1765, by Dr. Morgan and Dr. Shippen. Walsh points out that a chair of medicine was established at the University of Mexico in 1578 or 1580. He relates its history and reviews its subjects of study; a list is extant of all the professors who have occupied it down to the nineteenth century. A public teacher of medicine was appointed half a century before this chair was founded, namely, in 1525. Walsh mentions it as a noteworthy fact that a man had at that time to spend seven years at the university before he received the degree of doctor of medicine. Walsh considers it fortunate that we are gradually returning to this position.

13. **Stomach and Intestinal Gases.**—Basch discusses first the stomach gases as follows: 1. Oxygen and nitrogen from air swallowed with, or independently of, eating or drinking. 2. Carbonic acid, nitrogen, sulphuretted hydrogen, ammonia and other gases contained in foodstuffs, beverages, medicated liquids and mineral waters. 3. Gases originating within the stomach itself, from fermentation by micro-organisms in the early stages of the normal gastric digestion. Under pathologic conditions, such as ulcerating carcinoma, abscess of the stomach wall, stagnation of stomach contents, etc., besides these gases, sulphuretted hydrogen, marsh gas and other hydrocarbons may be formed. He cites the results from some of his own analyses. He then discusses the sources and varieties of intestinal gases: 1. They enter the bowels from the stomach; 2. they pass into it by diffusion from the blood; 3. they are formed within the gut itself; this last is the most important source.

14. **Electrotherapeutics.**—Fisher describes the uses of electricity in therapeutics, but differs from many others in asserting that "even if it does no good it never harms."

15. **Conservative Surgery of the Hands.**—Hofheimer reports a series of cases to support a plea for giving Nature a chance, even in apparently hopeless cases, instead of resorting at once to operative measures.

Lancet Clinic, Cincinnati.

October 3.

17. Latest Verdict of Science on the Alcohol Question. J. H. Kellogg, Battle Creek, Mich.
18. Dante: Physician. (Continued.) A. G. Drury, Cincinnati, O.
19. Obscure Fractures Discovered by *X*-ray Examination. S. Lange, Cincinnati.

October 10.

20. *National Department of Public Health in Relation to the Anti-Tuberculosis Problem. C. A. L. Reed, Cincinnati.
21. Osteomyelitis of Adolescence. W. E. Savage, Cincinnati.
22. Introductory to Course of Lectures for Nurses. M. K. Isham, Columbus.
23. Dante: Physician (Continued.) A. G. Drury, Cincinnati.

20. An abstract of this article will appear in our report of the International Congress on Tuberculosis, in Society Proceedings.

Medical Fortnightly, St. Louis.

October 10.

24. *Method of Sydenham Greater than the Method of the Laboratory. B. Holmes.
25. Touring the Lands Where Medical Science Was Evolved. R. G. Eccles, Brooklyn, N. Y.
26. Relief on Retention of Urine by Suprapubic Catheter. W. T. Belfield, Chicago.
27. Acute Suppurative Perforating Appendicitis Complicating Typhoid. J. McHale, St. Louis.

24. **Clinic vs. the Laboratory.**—Holmes says that the specific gravity of the urine, the temperature of the patient, the number of corpuscles in a cubic millimeter of his blood, the rapidity of his respirations and heart beats, are quantitative acts of indubitable verity, but the indescribable odor of a patient with smallpox, the feces of a typhoid or pneumonia patient, the attitude of a sufferer from posterior urethritis, are quite as safe data for diagnosis, though they do not submit to instrumentation. It is not necessary for the experienced engineer to go over every bolt and joint of his engine to find out where and what the trouble is. He catches the sound and sees the symptom, while the novice would be hopelessly hunting or ignorantly unsuspicious of danger. If the laboratory man remains a laboratory man he is hopeless as a physician. The clinical method uses the exact methods of the laboratory as far as they go, and the methods of induction and deduction elsewhere. The great deductions of medicine that have helped humanity and relieved distress have come, not through the laboratory, but through the clinical method, and in the future, as in the past, it will be through the broad deductions of the clinician based on a foundation of detail well learned in the laboratory—which, however, will always be a minor and subservient method—that the great future contributions to our knowledge will come.

Virginia Medical Semi-Monthly, Richmond.

September 25.

28. *Treatment of Some Neuroses by Bier's Hyperemia. A. Gordon, Philadelphia.
29. Double Septic Pneumonia—Acute Dilatation of Stomach. Double Empyema with Drainage of Both Pleural Cavities. W. W. Dunn, Richmond, Va.
30. Relation of Pathology to Modern Surgery. J. S. Horsley, Richmond, Va.
31. *Should We Have a Bureau of Health? J. G. Bulloch, Washington, D. C.
32. Cataphoresis. M. W. Peyser, Richmond, Va.
33. Case of Ectopic Gestation That Went Beyond Full Term. H. W. Lewis, Richmond, Va.

28. **Constriction Hyperemia in Neuroses.**—Gordon makes a further report on six additional cases of neuroses, treated with favorable results by the use of Bier's method. The cases are acroparesthesia, writer's cramp, telegrapher's cramp, brachial neuralgia, a paroxysmal cramp in a bricklayer, and paresthesia in a seamstress.

31. **Bureau of Health.**—Bulloch urges that a health officer should be appointed by the government, whose duty it should be to visit all the buildings and the employes and see that every individual is free from contagious diseases, and that the offices, etc., are in a sanitary condition. Not only should all immigrants be inspected, as is now done, but there should be a general inspection of all buildings, and the question of child labor and sweat shops, and other matters too numerous to mention, should be looked into. An important matter calling for the closest scrutiny, which may not only jeopardize the health of the many, but seriously affect the farming interests of this country, is the serious disease called "pellagra," said to be caused by eating damaged maize, or Indian corn. If it is true that pellagra is due to maize, damaged or otherwise, it becomes a serious consideration, for this grain is not only a western but a southern staple. If it is not true that maize is the cause, then the assertion should be contradicted. If it is true that only the damaged maize is a factor, it is important that steps should be taken to protect the public against eating an article which is productive of so serious a disease. A bureau of health could look into all these matters, and be of untold benefit to our citizens and country.

Archives of Internal Medicine, Chicago.

July.

34. *Nature of Shock. S. J. Meltzer, New York.
35. *Chloroform Necrosis of the Liver. H. G. Wells, Chicago.
36. *Morphology of the Blood in Pertussis. J. H. Barach, Pittsburg, Pa.
37. *Experiments with an Ash-Free Diet. H. W. Goodall and E. P. Joslin, Boston, Mass.
38. *Inhibition of Pancreatic Activity by Extracts of Suprarenal and Pituitary Bodies. R. Pemberton and J. E. Sweet, Philadelphia.
39. *Clinical Value of the Quantitative Estimation of Pepsin. C. B. Farr and E. H. Goodman, Philadelphia.

34. **Shock.**—Meltzer recapitulates the history of our knowledge of shock up to the time of Crile's experiments, which,

with the theory founded on them, have been widely accepted in the surgical world, especially in the United States and England. He refers to the divergent views of Boise and Malcolm as to the interpretation of Crile's results, and the further studies of Howell and Porter. He adds: "This brief review will suffice to show that the experimental era has not yet solved the mystery of shock, and that the bringing forward of new experimental facts capable of shedding some more light on our puzzling problem is not yet a superfluous luxury." Meltzer's experiments were not undertaken with a view to determining the nature of shock. The first series deals with the motility of the gastrointestinal canal. He found that the simple opening of the abdomen appeared to suppress the regular movements of the stomach and cecum. He then carried out experiments to discover the cause and nature of this suppression. From these experiments he considers the following conclusions safely established: Simple dissection of the skin over the abdomen presents a distinct stimulus; this stimulus, when the corresponding part of the spinal cord is intact, causes a reflex of undoubtedly inhibitory character; when the cord is destroyed the opening of the abdomen brings on a stimulation of peripheral inhibitory mechanisms; and, therefore, when the cord is intact, the opening of the abdomen is instrumental in bringing out a two-fold inhibition—a reflex inhibition and an inhibition of a local peripheral mechanism. The experiments of Cannon and Murphy (THE JOURNAL, Sept. 7, 1907, p. 840), Meltzer asserts, verify these conclusions. He then asks: What is the nature of that condition which we term shock? We are in the habit of expecting a stimulus to produce or increase an activity. In shock the activity of the functions is depressed or suspended. By what method do the stimulating injuries cause this depression or suspension of activity. He ventures the assumption, which is not new, that the various injuries which are capable of bringing on shock, do so by favoring the development of the inhibitory side of all the functions of the body. This predominance of inhibition makes its appearance at first in those functions which are of less immediate importance to life, and are, therefore, less insured by safeguards protecting their equilibrium. With increased injury the inhibition spreads also to the more vital and, therefore, better protected functions of the nervous system. The early inhibition in the development of shock, of the functions of lesser importance, might even be looked on as being, in a degree, conservative measures of protection of other more important functions of animal life. The restfulness of the body, the painlessness and mental indifference, are certainly most desirable conditions in the management of shock of the more vital functions.

35. **Chloroform Necrosis of Liver.**—Wells describes carefully a case and says that the cases of delayed chloroform poisoning described in the literature apparently tend to group themselves into two classes. In one, chiefly children, the symptoms are those of "acidemia," or "acetonemia," without jaundice, and in these cases the changes of the liver are not very marked, consisting, according to the published descriptions, chiefly of fatty degenerations about the periphery of the liver lobules. The other type is observed chiefly in young adults and clinically is marked by profound jaundice, cholemia, hemorrhage, and the usual symptom-complex of a rapidly fatal acute yellow atrophy of the liver; anatomically the liver appears much as it does in acute yellow atrophy, being reduced in size, flabby, yellow, and showing microscopically an extreme degree of necrosis, beginning in the center of the lobule, with more or less peripheral fatty degeneration. Intermediate cases occur that do not fall distinctly into one or the other of the two types. The condition in the second set of cases resembles closely that of typical acute yellow atrophy of the liver, except in the greater tendency to fatty changes. Nevertheless, it seems best for the present to reserve the term acute yellow atrophy to that form of liver necrosis and autolysis which occurs idiopathically and which presents certain features different from chloroform necrosis, puerperal eclampsia and phosphorus poisoning, and which is possibly due to some specific cause. The fact that chloroform seems particularly to affect livers in which fatty degeneration has been previously produced by some other disorder, may possibly be due to the known absorption of chloroform by intracellular fats, which in this case would increase the concentration and duration of action of the chloroform in the degenerated liver cells. Chloroform is a violent protoplasmic poison, and if it were to inhibit or destroy the oxidizing enzymes of the liver cells, the results would presumably be the same as those characteristic of chloroform necrosis; hence it seems probable that chloroform produces its effects by acting on the oxidizing enzymes, without corresponding inhibition of the autolytic enzymes and the lipase of the cells.

36. **The Blood in Pertussis.**—Barach reviews the history of the study of the blood in pertussis and reports the details of blood study in 50 cases of his own. He emphasizes the distinct value of blood examination in the early diagnosis of the disease, and describes the blood cycle as follows: There is at first a leucocytosis with increase of all the forms; then a small cell lymphocytosis becomes conspicuous and continues to increase when the other forms have reached their limit. The large lymphocytes follow the course of the small ones, but they reach their greatest numbers after the small cells have reached theirs. During the stage of active lymphocytosis bi-lobed small lymphocytes are frequently seen as well as numerous degenerated large lymphocytes, especially the basket forms. Then comes the simultaneous falling of the leucocytosis and lymphocytosis, while the polynuclears begin to resume their normal proportion. A little later, the mast cells are observed more frequently, and an occasional myelocyte may be seen. While the leucocytosis and lymphocytosis continue to fall by lysis, an eosinophilia is noted; this continues for a variable time, after which the blood formula resumes its normal proportion. During this entire cycle the transitionals seem unaffected. Clinically, leucocytosis is present at about the time the child first coughs; as coughing goes on the leucocytosis increases and the lymphocytosis becomes marked. The height of the leucocytosis is reached in the spasmodic stage, sometimes early, and sometimes in the latter part, the sickest children showing the highest grade of leucocytosis. About the time that a marked improvement is noted in the child the leucocytosis has decreased, the polynuclears have increased, and the eosinophilia is present. This eosinophilia continues for a variable time.

37. **Ash-Free Diet.**—Goodall and Joslin report their experiments in detail, but state that they do not consider that they afford a basis for any far-reaching deductions as to changes in metabolism, and that they certainly give no support to the view that the withdrawal of salts from the diet will cause an acidosis of the acetone variety. Clinical observations on the effect of the diminution of salt in a severe case of diabetes are in harmony with their experiments.

38. **Suprarenal and Pituitary Bodies as Inhibitors of Pancreatic Activity.**—Pemberton and Sweet detail their experiments and summarize their conclusions as follows:

1. The suprarenal glands and the nervous moiety of the pituitary body in dogs contain something which, on extraction with salt solution and intravenous injection into dogs, cuts short the flow of pancreatic juice, after the administration of secretin. It also prevents the stimulation of the gland by secretin if its injection precedes the secretin.
2. This feature has not been found, to date, in any other tissues.
3. It is independent of the general rise in blood pressure seen after the intravenous injection of adrenalin and pituitary extracts.
4. The inhibitory factor of extracts of the suprarenal glands seems to disappear by decomposition, oxidation or other process, before the blood pressure raising element is gone. It would appear that the suprarenal and the pituitary bodies have at least one property other than those qualities generally recognized as present in them.

39. **Quantitative Estimation of Pepsin.**—Farr and Goodman enumerate the various procedures, with description of methods, for the quantitative estimation of pepsin, and report their own studies. They state that pepsin determination seems to be of value in distinguishing simple gastritis and neuroses from achylia and carcinoma. In the last two, the pepsin is invariably very much diminished, whereas in the first two it is unaffected or only slightly altered. Herein they disagree with Witte, who found that pepsin was always low in neuroses.

The wide variations in the pepsin values would suggest that the drug has been too much despised by stomach specialists, though this can not be said of practitioners in general. It would seem to be indicated in cases showing subnormal peptic values, with preservation of at least a fair degree of acidity. In chronic gastritis with low acidity and low pepsin, in achylia and in carcinoma it would be necessary to add hydrochloric acid. In many cases it is doubtful if enough acid could be introduced, except occasionally with a stomach tube, to allow of normal proteolysis. A practical expedient (Sailer) is to saturate meat or milk, before taking, with dilute hydrochloric acid until free acid can be detected, after which a small dose of hydrochloric acid will suffice. Pepsin should be given in sufficient amounts to make a solution of from 1/4 to 1/16 per cent. in the contents of the stomach (estimated in advance). It should be given with or followed by at least twenty minims of dilute hydrochloric acid. Both may be repeated once or twice at short intervals to make up for the amount expelled in the duodenum.

Bulletin Johns Hopkins Hospital, Baltimore.

September.

40 *Pro-Infective ("Agressive") Action of Normal Blood Serum. R. I. Cole and M. R. Smirnow, New Haven, Conn.
41 Acute and Chronic Gastromesenteric Ileus, with Cure in a Chronic Case by Duodenojejunostomy. A. L. Stavely, Baltimore.
42 *Statistics of Tuberculous Peritonitis from the Clinical Records of Johns Hopkins Hospital. L. Hamman, Baltimore.
43 *Action of Lecithin in Exophthalmic Goiter. H. J. Berkley, Baltimore.
44 Ambeceptors and Complement in Typhoid Sera. H. S. Denison, Baltimore.
45 *Hemolytic Action of Bile, and Its Inhibition by Blood Serum. A. W. Sellards, Baltimore.
46 Effect of Heated Serum on Rouleaux Formation of Red Blood Corpuscles. W. Sellards, Baltimore.
47 Instrument for the Determination of Venous Pressure in Man. D. R. Hooker and J. A. E. Eyster, Baltimore.
48 A Family of Hemeralopes. J. Bordley, Baltimore.

40. **Normal Blood Serum.**—Cole and Smirnow refer to the substances found in blood serum which give it an action directly antagonistic to infection, but cite the experiments of Bail and others as indicating that under certain circumstances serum, or more particularly serum from exudates, may exert an influence directly favoring infection. They report a series of experiments of their own, which seem to show that blood serum may exhibit an effect directly contrary to what has been considered the usual one. Instead of killing the bacteria, or at least rendering them harmless, or of neutralizing their poison, foreign serum, when injected into an animal may increase its susceptibility or may render the bacteria simultaneously injected more virulent. They question whether the results obtained by Bail and others with so-called natural aggressins may not have been due, in part, at least, to the injection of serum together with the bacterial cultures, and not to any specific substances contained in the exudate.

42. **Statistics of Tuberculous Peritonitis.**—Hamman has gone over the records of the cases of tuberculous peritonitis that occurred in Johns Hopkins Hospital during the first fifteen years of its life, and has added a few subsequent histories to make the total number 150. The family history is of importance chiefly as an index of exposure. While many cases came on abruptly with well-defined symptoms, in many patients the disease was well advanced before attracting attention. The most important symptoms and clinical findings during the course of the disease are as follows:

One hundred and four patients complained at some time of abdominal pain. This is the most constant and most important of all the symptoms.
Forty-two patients had vomiting and fifty-one nausea.
Forty-eight patients were constipated, thirty-three had diarrhea and four alternating constipation and diarrhea.
Six had blood in the stools. In one of these tubercle bacilli were found in the feces; two more came to autopsy and both showed tuberculosis ulcers in the intestine.
Eleven complained of pain in the chest; four of these had pleurisy, three pulmonary tuberculosis, three both pleurisy and pulmonary tuberculosis and one probably pulmonary tuberculosis.
Forty-seven patients had cough; in 34 there was clinical evidence of pulmonary disease; three more of the forty-seven came to autopsy and all showed pulmonary tuberculosis.
Thirty patients complained of dyspnea; twenty-four of these had pulmonary lesions.

The author emphasizes among tuberculous complications the fact that in about 50 per cent. of medical cases tuberculous lesions elsewhere were discoverable clinically. In obscure abdominal conditions a pleural rub, râles at an apex, enlarged glands, or a nodule in the epididymis, may give the diagnosis. In 70 per cent. of cases the blood count is under 10,000, and in 83 per cent. under 43,000. The 11 patients with higher counts had complications. Bloodgood suggests this as a diagnostic feature. The following points are brought out: 1. The great rarity of even apparently primary peritoneal tuberculosis. 2. The great frequency with which more than one serous membrane is affected. 3. In one case a colored boy was admitted six times with the diagnosis of tuberculosis of serous membrane—first the peritoneum, then the pleuræ, then the pericardium. At autopsy there was found an old fibrous peritonitis, pleuritis, and pericarditis, but the only definite tuberculous lesion in the body was a small calcareous nodule in the lung. This case belongs to the group called multiple serosites, or polyorthomenitis, certain of which are definitely tuberculous, but the tuberculous nature is not commonly apparent. Tuberculous peritonitis is a fatal disease, and even when there is improvement, the after-results are not brilliant.

43. **Lecithin in Exophthalmic Goiter.**—For the past three years Berkley has used an alcoholic solution of lecithin, with excellent results in many cases of asthenia (not psychasthenia) and much more recently has extended its service to a few cases of exophthalmic goiter with strikingly favorable effect. Notwithstanding the nauseous and disagreeable odor of the solution, the patients cling to it until the nervous symptoms are allayed. All these patients placed on it, state that an hour after the medicine is taken, "the nerves" are quieted and there is a cessation of acute symptoms. Berkley tried it for alternate weeks with glycerophosphates, quinin, and gentian, and the patients lost weight, with increase of nervous phenomena on the glycerophosphates, and gained weight, with abatement of nervous symptoms, on the lecithin. Lecithin is out of place with disturbed digestion, and it fails without the assistance of a milk diet. The author discusses its action and describes the histories of four cases of exophthalmic goiter, two of severe type, in which this treatment proved beneficial. He suggests a further trial of the combination of lecithin and milk, to contract the disordered forces of the thyroid.

45. **Hemolytic Action of Bile.**—Sellards describes experiments with reference to the toxic action of bile and the normal mechanism for protection against this action. He draws the following conclusions: 1. Bile and bile salts are active hemolytic agents *in vitro*. 2. Normal serum protects against the hemolytic action of bile. In serum dilutions as high as 1 to 3000 a trace of this protective action still persists. Precipitation of the proteids by heat does not affect this inhibitory property of the serum. These facts have a direct bearing on the explanation of acute hemorrhagic pancreatitis, following the injection of bile. There is necrosis of the pancreas, caused by the bile, and the hemorrhage would presumably tend to neutralize the action of the bile. Except for the protection afforded by the blood serum, a simple catarrhal jaundice might perhaps be followed by serious consequences, such as the development of a severe secondary anemia.

Interstate Medical Journal, St. Louis.

September.

49 *Superior Alternate Hemiplegia—Gubler-Weber Type. S. E. Jelliffe, New York City.
50 *Exophthalmic Goiter plus Surgical Lesions. V. P. Blair, St. Louis.
51 Traumatic Venous Thrombosis. W. P. Kendall, U. S. Army.
52 *Some Vital Points in Tuberculosis. L. M. Warfield, St. Louis.
53 Sigmoiditis. W. H. Stauffer, St. Louis.

49. **Superior Alternate Hemiplegia.**—Jelliffe describes in detail three cases exhibiting the Gubler-Weber syndrome. He remarks that the parallelism in these three cases is striking. They are typical illustrations of the Gubler-Weber syndrome, the first case showing the symptoms at the onset, with flaccid paralysis and loss of knee-jerk, no Babinski, no contractures as yet; whereas the second case shows the later stages when contractures and spasticity have set in, with increased reflexes throughout. The third case is typical of those that go on to death by exhaustion. He discusses the arterial supply

to the cerebral peduncles, the rupture of which is the cause of hemorrhages or softening, and looks for the interpretation of the lesion in his cases to a hemorrhage of the artery of the third nerve nucleus.

50. **Exophthalmic Goiter.**—Blair reports three cases illustrating the following points: The influence of exophthalmic goiter on the immediate result of the operation, the possible subsequent influence of an operation on the goiter and the relation of the goiter to the postoperative condition.

52. **Tuberculosis.**—Warfield emphasizes the following points: Diagnosis can only be learned from clinics, not from books or medical articles. It is of the utmost importance to bear in mind that the finding of bacilli is not necessary for a final diagnosis. An open but critical attitude of mind is the first essential; then a careful history, a thorough examination of the bared chest, with a good light on it, trained sight, touch, and hearing, careful re-examination of the patient, and repeated examination of the sputum. He discusses the question of hemoptysis, and entirely rejects the idea held by some that patients having frequent hemorrhages do better than those who never spit blood. He considers the question of going away to a different climate, and holds that it is only occasionally that it is sound advice to urge the patient to go away. Climate is an excellent adjuvant, but never yet accomplished alone a cure of tuberculosis. "Let the tuberculous do in his own climate what he does in some health resort, and the results will be just as good, if not better." Warfield regards the advice given frequently to patients, to work and exercise, as fatal. It is rest that is needed, and when there is fever, rest in bed. Exercise has its distinct place in treatment, but it is a therapeutic measure that should be regularly supervised by the physician who understands its limitations. Attention to every detail of the patient's life increases his chance of cure. If every physician examined carefully every patient with cough or rapid loss of weight, there would be fewer advanced cases of tuberculosis.

Journal South Carolina Medical Association, Greenville.

September.

54. Value of X-ray Photography in the Treatment of Fractures. S. C. Baker, Sumter, S. C.
55. *Adjuvants to Nutrition and Fresh Air in Laryngeal and Pulmonary Tuberculosis. W. P. Porcher, Charleston, S. C.
56. The Physician as a Political Factor. F. J. Carroll, Summerville, S. C.
57. Some Disadvantages in Prescribing Proprietary Preparations. J. B. Townsend, Anderson, S. C.
58. Skin Grafting. M. R. Baker, Columbia, S. C.

55. **Laryngeal and Pulmonary Tuberculosis.**—Porcher calls attention to certain adjuvants to fresh air and nutrition in the treatment of laryngeal and pulmonary tuberculosis. 1. Attention to nasal obstruction; 2, counter-irritation, the value of which he illustrates by pointing out the well-known effect which a fistula-in-ano has, and the danger of closing it in a tuberculous person; 3, the value of nebulized spray of mentholated petrolatum with eucalyptol in tuberculous, or, indeed, any cough; 4, treatment of constant indigestion and obstinate constipation. He has had happy effects from the use of tincture of aloes, nux vomica, physostigma, and belladonna, with fluid extract of stillingia sylvatica; 5, rest is important wherever tissue waste is excessive and temperature is raised. Porcher discusses the value of tuberculin treatment, which properly used is great, but states that it should never be used therapeutically when there is a rise of temperature, and the production of a reaction should be avoided.

Colorado Medicine, Denver.

September.

59. The Value, from a Therapeutic Standpoint, of an Accurate Diagnosis in Cardiac Lesions. W. R. Tyndale, Salt Lake City, Utah.
60. Aneurism of the Thoracic Aorta. A. C. McClannahan, Victor, Colo.
61 Outdoor Life and Rest in the Treatment of Tuberculosis. F. R. Smith, Grand Junction Colo.
62. *Non-Specific Ulceration of the Bones of the Nose and Face. F. H. Welles, Grand Junction, Colo.

62. **Non-Specific Ulceration of Face.**—Welles reports three cases of ulceration of the bones of nose and face in which syphilis was excluded, because of (a) absence of specific history; (b) absence of concomitant lesions; (c) negative effect of active specific treatment; (d) absence of periosteal and osteoplastic processes, resulting in hyperostosis, sclerosis, and repair of defects, characteristic of syphilitic lesions, and (e) operative results. There was no history of infectious disease to cause a suspicion of secondary infectious osteomyelitis. Osteomalacia, rarefying osteitis, varying forms of atrophy, metallic poisoning, and rheumatism, were all excluded. Two of the patients were repeatedly examined by well-known clinicians and no etiologic factors were found unless possibly some decomposition of intestinal contents, as shown by slight indicanuria. He concludes practically as follows: In these cases there was no regional pressure anemia or obstruction to drainage, and, in view of the absence of a specific organism known to be causative of such extensive continuous lesion in the face of fairly normal systemic conditions, he is forced to conclude that unknown possibilities lie in the power of the microbic flora so exuberant in these cases, and that the point of infection was to be found in some abrasion of the mucosa probably effected by the finger nail.

Journal Michigan State Medical Society, Detroit.

September.

63. *Diagnosis of Obstruction of the Esophagus. G. Dock, New Orleans, La.
64. *Acute Peritonitis. W. F. Metcalf, Detroit.
65. Value of Uranalysis in Recognition of Disease. A. T. Godfrey, Holland.
66. *Consentium in the Surgery of the Uterine Adnexa for Preservation of the Possibility of Pregnancy. G. Van A. Brown, Detroit.
67. *The Country Surgeon. H. B. Garner, Traverse City.

63. Abstracted in THE JOURNAL, Aug. 22, 1908, p. 699.

64, 66, 67. Abstracted in THE JOURNAL, Aug. 29, 1908, pp. 784-786.

Journal Kansas Medical Society, Kansas City.

September.

68. *Vaccines in Chronic Otitis Media. W. K. Trimble, Rosedale.
69. Convulsions, the Result of Complete Vaginal Atresia. G. B. McClellan, Weir.
70. Static Electricity in Nervous Diseases. A. Haggart, Ottawa.
71. Puerperal Eclampsia. T. D. Blasdel Garnett.
72. Opsonins and Agglutinins. L. R. Sellers, Osawatomie.

68. **Vaccine Treatment in Chronic Otitis Media.**—Trimble reports four consecutive cases of otitis media, treated successfully with vaccines, the organisms being respectively *Staphylococcus aureus*, two cases, *Bacillus pyocyaneus*, one case, and *Bacillus pyocyaneus* with *Staphylococcus albus*, one case. He considers that all cases of chronic otitis media in which symptoms are scarcely such as to justify operation should be given the vaccine treatment.

Western Medical Review, Omaha.

September.

73. Prevention and Treatment of Puerperal Infection. O. and G. A. Grothan, Kearney, Neb.
74. *Coronary Artery Sclerosis. A. D. Dunn, Omaha.
75. *Treatment of Deformities by Plaster-of-Paris and Other Mechanical Devices. H. W. Orr, Lincoln, Neb.

74. **Coronary Artery Sclerosis.**—Dunn sketches the etiology and pathology of this condition, its causative relationship to chronic heart muscle insufficiency, the clinical manifestation of the latter in so far as they pertain to coronary artery disease, and its prognosis, with therapeutic hints. The treatment can only be retardative, but time may be added to life and usefulness of the individual. Everything must be done to strengthen the heart and to prevent decompensation. Everything tending to hypertension must be avoided. Mild exercise under a medical gymnast is beneficial. Sudden and overtaxing exertion and great mental excitement should be avoided. Abundant sleep and rest are enjoined, diet must be regulated, a lactovegetarian diet is recommended, and the use of tobacco must be limited. To relieve portal stasis a proper laxative effect is best obtained by salines, especially saline aperient waters, but it must be remembered that excessive fluids increase cardiac labor. An occasional dose of calomel or gray powder is useful. The iodids are often beneficial by decreasing the viscosity of the blood in cases of severe circulatory disturbance. Morphin is indicated by insomnia or attacks of

asthma. It is the best drug in heart muscle degeneration in doses of from ⅛ to 1/10 grain hypodermically. Heroin, 1/6 to 1/12 grain, is often a good substitute.

75. Abstracted in THE JOURNAL, July 4, 1908, p. 67.

American Journal of Public Hygiene, Boston.

May.

76. Use of Smith's Solution and Bile Media. L. V. Parker.
77. Method for Calculating the Numbers of *B. Coli* From the Results of Dilution Tests. E. D. Phelps, Boston.
78. Normal Waters of Illinois. E. Bartow.
79. Antiseptic and Germicidal Properties of Solution of Formaldehyd and Their Action on Toxins. J. F. Anderson, Boston.
80. Specific Nature of Anaphylaxis. M. J. Rosenau and J. F. Anderson, Boston.
81. Method of Determining Total and Volatile Suspended Matter in Sewage. C. B. Young and C. F. Long.
82. Transmission and Methods for Control of Tuberculosis. D. D. Brough, Boston.
83. Function of Health Boards in Control of Tuberculosis. E. Otis, Boston.

Southern California Practitioner, Los Angeles.

September.

84. Fifty Abdominal Sections for Various Conditions. M. A. Rogers, Tucson, Ariz.
85. Ocular Symptoms of Cerebral Concussion, Contusion and Compression. F. W. Miller, Los Angeles.
86. Camp Sanitation and Military Hygiene. P. A. Adams, Los Angeles.
87. Medical Legislation: Suggestions for the Arizona Medical Association. C. E. Yount, Prescott, Ariz.
88. Effects of Faulty Eye, Ear, Nose and Throat Conditions on the Mental Development of School Children. Herbert F. True, Los Angeles.

Journal of Inebriety, Boston.

Autumn.

89. The So-called Stimulating Effect of Alcohol on Protoplasm. W. H. Kesteven.
90. Treatment of Inebriety by Hypnotic Suggestion. J. D. Quackenbos, New York.
91. Great Temperance Pioneers in the Medical Profession and Their Work for the Last Century. H. O. Marcy, Boston.
92. Inebriety in Its Relations to Crime. G. F. Lydston, Chicago.
93. Accuracy in Clinical Study of Mental and Nervous Disorders from Alcohol. J. M. Alken Omaha, Neb.
94. Alcohol and Moral Degeneracy. D. H. Kress, Washington, D. C.

Journal Oklahoma State Medical Association, Guthrie.

September.

95. Unusual Gunshot Wounds. D. A. Myers, Lawton.
96. Hernia. G. A. Boyle, Enid.
97. The Physician's Wife. F. E. Waterfield, Holdenville.
98. Examination of the Patient. J. H. Barnes, Enid.

Ophthalmic Record, Chicago.

September.

99. Preliminary Report of a Theory of the Etiology, Prevention, Pathology, Treatment and Cure of Trachoma. F. B. Eaton, Portland, Ore.
100. Siderosis of the Right Eye, Caused by Pierce of Iron-Scale, Which the X-Ray Failed to Locate. H. Muetze, St. Louis.
101. Cultivation of the Meningococcus from Eye Conditions Complicating Epidemic Cerebrospinal Meningitis. H. McKee, Montreal.
102. Piece of Steel Weighing Less Than a Milligram, Successfully Removed from Vitreous, with Resulting Normal Vision. C. N. Spratt, Minneapolis.
103. New Knife and Method for Iridotomy. G. B. Jobson, Jr., Franklin, Pa.
104. An Unusual Degree of Myopia in a Pure-Blooded Negro. C. W. Kollock, Charleston, S. C.

Atlanta Journal-Record of Medicine.

September.

105. Two Cases of Intestinal Autointoxication, Showing Unusual Skin Manifestations. L. M. Gaines, Atlanta, Ga.
106. Case of Hydatidiform Mole (Myxoma Chorii). J. B. Cranner, Wilmington, N. C.
107. Advantages of Early Operation in Appendicitis. Atlanta, Ga.
108. Abscess of the Brain. R. G. Buckner, Asheville, N. C.
109. Suppurative Leiomyoma of Stomach, with Hour-Glass Contraction. W. W. Battey, Augusta, Ga.
110. Postgraduate Study in Europe. O. H. Johnson, Athens, Ga.

Detroit Medical Journal.

September.

111. Antiquity of Surgery. F. B. Tibbals, Detroit.
112. Dual Action of Narcotic Drugs. O. H. Lau, Detroit.
113. Antituberculosis Work in Grand Rapids. J. Ihlder, Grand Rapids.
114. Effect of Abnormal Conditions in the Nose on Hearing. J. M. DeKraker, Grand Rapids.

Journal of Ophthalmology and Otolaryngology, Chicago.

September.

115. Significance of Certain Eye Diseases and Symptoms in Relation to Disability. W. O. Nance, Chicago.
116. Gonorrheal Iritis. W. M. Beaumont, Bath, Eng.
117. Widening of the Palatal Arch: Its Influence on the Nose and Nasopharynx. L. W. Dean, Iowa City, Ia.

Vermont Medical Monthly, Burlington.

September.

118. Examination and Diagnosis of Rectal Diseases. D. C. Hawley, Burlington.
119. Pneumonia. H. W. Barrows, Stowe.
120. Surgical Service at the Mary Fletcher Hospital. H. C. Tinkham, Burlington.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below. Clinical lectures, single case reports and trials of new drugs and artificial foods are omitted unless of exceptional general interest.

Lancet, London.

September 26.

1 *Itching: Its Causes and Treatment. W. A. Jamieson.
2 Case of Embolic (Thrombotic) Atelectasis of the Middle and Lower Lobes of the Right Lung; Survival. W. B. Shaw and E. M. Corner.
3 Therapeutic Application of Stock Vaccines in Bacterial Infections. J. Matthews.
4 *Vaccines in General Practice. L. Grant, T. H. Campbell and W. D. Anderson.
5 Sanitation of Mines. F. Shufflebotham.
6 *Formic Acid Derivatives in Cancer. J. H. Evans.
7 Case of Ruptured Uterus. A. M. Sorabji.
8 Diffuse Painful Lipoma of the Foot. A. H. Tubby.
9 Sanitation in a Territorial Camp. J. S. Warrack.
10 Case of Huntington's Chorea. J. J. W. Evans.
11 French and German for Medical Students. W. Osler.
12 The Lactic Ferments as Therapeutic Agents. F. S. Mason.

1. **Itching.**—Jamieson says that we may interpret itching as "a functional disorder of innervation which may be produced by external or internal causes alike." It is essentially a surface sensation, and its most marked developments are to be found in those lesions that mainly affect the epidermis. Pressure is inimical to itching. The proximate cause of itching is closely connected with that of urticaria, more particularly that form known as urticaria factitia, or dermographism, in which the vasomotor mechanism is so sensitive that wheals can be evoked by friction. Jamieson cites Unna's theory, that itching is due to a disproportion between the pressure of the tissue juices and that of the limiting corneous layer, but he considers that we must probably assume, in addition, a degree of hyperesthesia. Scratching indulged in to mitigate the sensation is not in itself harmful; it is the degree to which it is carried, not the act itself, which is injurious. He cites the rough towel, flesh brush, etc., in daily use. He discusses the association of pruritus with parasites and with definite skin disease, and points out that plants as well as insects may set up a dermatitis and induce itching. Poisons generated from within account for the itching in severe jaundice, in Hodgkin's disease, and at the climacteric in women. He discusses pruritus ani, and says that besides threadworms, piles, fissures and prostatic disorders, the liver must be considered assuredly at fault in many cases, possibly as a dependent of some cardiac trouble. Pruritus may be a symptom of pelvic cancer. Pruritus vulvæ suggests glycosuria, not necessarily diabetic, as this form is perhaps more aggressive in stout gouty women, not diabetics. There is a peculiar itching of the fourth toe, and within the meatus of the ear, the nostril and the tongue, which are characteristic minor forms. Itching can not be treated solely as a substantive lesion. Medicated soaps—menthol, nicotin, naphthol, etc.—are useful. A dry surface with slight desquamation suggests warm baths, under blood heat and containing some freshly prepared starch jelly, with inunction of glycerin of starch after gentle drying in climacteric cases. A course of subcutaneous pilocarpin injection, administered each night and extended over a couple of weeks, is often useful. Silk, Indian gauze or linen underwear should be worn next to the skin, and if thicker or warmer undergarments are required, they should be worn over the others. He goes at considerable length into other forms of treatment of itching.

4. **Vaccines in General Practice.**—Grant, Campbell and Anderson report several cases of the use of vaccines in general practice, with the *modus operandi* and the results. In these cases the microscopic work, the electric treatment, the preparation of vaccines, and the opsonic estimations, were all conducted by them in their own laboratory as general practitioners. The satisfactory results they attribute to the vaccines, and they note the following points in those cases treated with tuberculin: 1. The scars resulting were soft, pliable, and the disfigurement slight. 2. Recovery under the treatment seemed

rapid, and this implied saving of suffering and expense to the patient and anxiety to the medical attendants. 3. The absence of severe surgical measures minimized the risk of a general tuberculous infection and obviated that slight risk which always attends general anesthesia. 4. Although opsonic estimations were made only occasionally during the treatment, they suggested that the index was being steadily raised; and from this it is probable that for some time, at least, the patient will be less susceptible to attacks by the same bacterium. Surgical measures alone may achieve this indirectly, inasmuch as they rid the body of the focus of disease, but it is questionable if they are capable of raising the standard of defense to the same high level as that induced by vaccine therapy.

6. **Formic Acid Derivatives in Cancer.**—Evans records the detail of work systematically carried out since October, 1906, in connection with formic acid in cancer. He has employed the following preparations: 1. Formalin; formamint lozenges. 2. Formic acid; formates; glyceroformates. 3. Infusio A. F. (formula of the Cancer Hospital Pharmacopeia); an infusion of the common nettle, either grown under glass or plucked from its beds, according to the season of the year, so that the fresh herb has been regularly used. 4. Nettle fomentations. 5. Douches, irrigations, and rectal injections of formaldehyd and nettle preparations. He reports six cases in which the results were negative, and has no hesitation in stating that no authentic case of carcinoma, as recognized clinically and confirmed by an expert microscopist, has as yet been expurged by ingestion of formic acid.

British Medical Journal, London.

September 26.

13 *Forms of Cardiac Arrhythmia from the Point of View of the Myogenic Theory. W. J. Fenton.
14 Requirements of Modern Surgery. C. H. Hough.
15 Fatty Liver in Kala-Azar. U. N. Brahmachari.
16 *Cases of Vaccine Therapy. W. M. Crofton.
17 *Method of Operating in the Air-distended Urethra. W. W. Powell.
18 *Chronic Inflammatory Conditions of the Oropharynx. P. McBride.
19 *Id. B. Ball.
20 Paralysis of the Sixth Cranial Nerve in Aural Disease. J. S. Barr.
21 New Operation for Depressed Fracture of the Nose. T. G. Ouston.
22 Cervical Tumors Simulating Enlarged Glands Associated with Laryngeal Paralysis. A. Wylie.
23 Use of Bougies for Dilatation of the Infundibulum. D. Grant.
24 Anatomy and Surgery of the Tonsils. J. H. Nell.
25 Some Experiences in Direct Examination of the Larynx, Trachea and Esophagus. A. B. Kelley.
26 Direct Laryngoscopy, Bronchoscopy and Esophagoscopy. E. Waggett.
27 Development of Middle Ear. T. Guthrie.
28 Accessory Air Cells in the Septum Nasi. C. A. Parker.
29 Method of Operating for Pansinusitis. P. W. Williams.
30 Surgical Treatment of Infantile Paralysis. H. Tubby.
31 Hernia in which Meckel's Diverticulum Was Present. H. T. Gray.
32 Two Clinical Types of the Meningococcus and Their Bacteriologic Differentiation. F. C. Eve and J. M. Clements.
33 Treatment of Chorea. W. E. Wynter.
34 *Surgical Treatment of Tuberculous Glands in the Mesentery. E. M. Corner.
35 Practical Points in Treatment of Tuberculosis of the Spine. J. J. Clarke.
36 Two Cases of Pneumococcal Peritonitis in Children. W. H. Bowen.
37 Nephritis in Infancy. G. Carpenter.
38 Ischemic Myositis and Neuritis. W. Harris.

13. **Cardiac Arrhythmia and the Myogenic Theory.**—Fenton enunciates the various theories regarding the cause of the heart beat, and describes the heart and the method of graphically recording the pulse and interpreting the radial tracing. He then discusses the various forms of arrhythmia and their relation to the functions of stimulus production, conduction, irritability and contractility. The first form of arrhythmia—extrasystole—he discusses under two forms, the ventricular and the auricular, and quotes Wenckebach's four classes of subjects of extrasystole: 1, Those in whom nothing can be found; 2, those in whom the irregularity is due to lesions or conditions in other organs, and may be toxic in origin; 3, the aged; 4, those who suffer from definite organic lesions. He next discusses Adams-Stokes disease, or heart block, under defects in conductivity, and finally the pulsus alternans under defects of contractility. He considers that in the light of the myogenic theory and of the knowledge gained by investigation of the events taking place in a cardiac cycle by means of rightly understood graphic records of the venous and arterial pulses, much of the chapter on cardiac pathology requires to be rewritten. When this has been done, greater confidence will obtain in regard to the application of treatment.

16. **Vaccine Therapy.**—Crofton reports cases of chronic pyemia, tuberculous disease of the hip joint, eczema and sycosis, which lead him to the following conclusions:

1. It is legitimate to vaccinate patients with strictly localized infections without estimating their opsonic indices.
2. Materially increasing doses are necessary to confer any permanent immunity.
3. Vaccines given in such a way may prove of prophylactic use.

17. **Operating in the Air-Distended Urethra.**—Powell describes (with an illustration) an instrument for rendering possible operations in the air-distended urethra, and describes its use. He claims for it that by means of the pneumatic mount, most of the minor operations in the urethra can be undertaken, cysts and enlarged glands of Littre can be easily split and afterward cauterized. Small abscesses can be opened and sinuses slit up. Strictures of large caliber can be incised in the taut condition. Warts can be nipped off by the curette against the end of the cannula. Possibly the eccentric opening of a tight stricture can be incised and straightened to facilitate the passage of a filiform bougie. The electrolytic probe and the galvanocautery point can also be used, but extra nozzles, to which they are attached, are necessary.

18. **Chronic Inflammatory Conditions of the Oropharynx.**—MacBride discusses chronic inflammation of the tonsils, ulcerative conditions of the pharynx and tonsils, chronic pharyngitis—1, Typical granular pharyngitis; 2, pharyngitis characterized by granules and enlargement, congestion and irritability; 3, cases in which there may be some general congestion and in which the patient complains of frequent colds—and finally, pseudopharyngitis. In regard to the use of the guillotine, he cites the objection of Chevalier Jackson to the partial removal of the tonsil, and states that his own observations lead him to a different conclusion. In regard to hemorrhage, it is his practice after every tonsillotomy under local anesthesia to make the patient stand up, and he only allows him to sit down when it is obvious that the bleeding is stopping, or when he feels faint. Approaching syncope is one of the best hemostatics, and it is safer to induce faintness in the upright than in the recumbent position. MacBride considers it questionable whether keratosis should be included among inflammatory conditions. In regard to his second form of chronic pharyngitis, MacBride points out that such cases commonly occur in the kind of a man who "does himself well," is an excessive *bon vivant* and smokes and uses alcoholic beverages and highly seasoned foods to excess. Diet and regimen constitute the treatment here. The value of breathing exercises is also insisted on. In commenting on the third form, MacBride admits that the laryngologist is in a difficult position when called on for an opinion in cases in which the nose, pharynx and larynx present only a slight abnormality, but in which the complaint is of a great tendency to catch cold in the throat; it is difficult to say how far a slight septum deviation is concerned in the catching of cold. His inclination is to abstain from operation when no definite pathologic conditions explain the tendency to catching cold. He insists on the hardening process, as described by Moritz Schmidt—the gradual accustoming of infants to cold sponging; the disuse of too much clothing; the value of fresh air; and emphasizes the noxious effects of overheated rooms. Exercise, when ordered, should be definitely prescribed, like any other remedy. The author goes at length into details of regimen and physical culture. This last, as now taught, he criticizes on the ground that sufficient provision is not made in all the systems for increasing the rapidity of respiration and inducing warmth, the movements being often of such a nature as to exclude speed. This, however, can be remedied, by the use of some form of rapid exercise for a few minutes before finishing.

19. **Id.**—Ball discusses chronic nasopharyngitis in adults; "for," he says, "in children it is practically always symptomatic of adenoids, and the treatment is bound up with the treatment

of hypertrophy of the pharyngeal tonsil. Ball admits that it is not always easy to tell off-hand the actual source of the secretion in postnasal catarrh, a term often used in a loose sense to designate a symptom or group of symptoms depending on the presence of excessive or altered secretion in the nasopharynx, whatever its source. In some cases we may long remain in doubt as to how much comes from the nose and how much, if any, is due to nasopharyngeal disease. For these latter cases he endorses the term postnasal catarrh. Chronic nasopharyngitis may arise from many of the causes which produce chronic pharyngitis, but it is particularly apt to be induced or aggravated by secretions passing back from the nose, and which are retained owing to the mechanical difficulty of expelling them. In a certain number of cases, the seat of the trouble is the pharyngeal tonsil. He describes the simple catarrhal form, the atrophic form and the hypertrophic form, and calls attention to the fact that the association with ear troubles is a common cause of their coming under the notice of the physician. The proverbial obstinacy of chronic nasopharyngitis is largely due to the fact that the real nature of the case is not clearly made out, and the condition to which the nasopharyngitis is secondary is overlooked. It is useless to treat the chronic nasopharyngitis while a chronic rhinitis is neglected, the nose is obstructed, or a chronic sinus suppuration is overlooked. Probably the most important causative influences are the excessive use of alcohol and tobacco. The treatment after the removal of causative influences is the systematic removal of the secretion with washes. They are best used—with the necessary precautions—through the anterior nares. Ball prefers the small rubber ball syringe, of an ounce to an ounce and a half capacity. Postnasal sprays are difficult to use, and have no advantages. The solution should be warm, and isotonic with the blood, a condition which is fulfilled by adding 6 or 7 grains of sodium bicarbonate, 10 or 11 grains of borax, or 3 grains of sodium chlorid to the ounce. Some patients suffering from the dry forms derive comfort from the use of a paraffin menthol spray after the pharynx has been cleansed. The direct application of glycerin of iodin is also useful. Ball doubts the value of solutions of silver nitrate or zinc chlorid. Insufflation of astringent powders should be avoided, and the electric cautery should never be used in this region. He next discusses adenoids. Ball scouts the idea that breathing exercises effect their retrogression. In regard to the removal of the pharyngeal tonsil in every case in which chronic enlargement is detected, he decidedly negatives it, and holds that many, if not the great majority, of cases of slight enlargement are none the worse for being left alone. All are agreed that when certain definite symptoms or groups of symptoms are present in connection with adenoids, the adenoids should be removed. He then discusses the details of the operation and its effects on the child, and particularly points out that the results are by no means so universally satisfactory as it is commonly the case to represent them.

34. **Tuberculous Mesentery Glands.**—Corner records two cases of the removal of tuberculous mesenteric glands, and from these, in addition to former cases, draws the following deductions: As regards adults: 1. Tuberculous glands are most frequent in the ileocecal region; 2, they rarely form a palpable tumor; 3, they frequently are associated with appendicitis, less frequently with intestinal obstruction; 4, when caseous they give rise to pain and discomfort; they are one of the causes of abdominal pain which are only found on exploration. As regards young children: 1. Tuberculous glands are usually found in the mesentery of the small intestine. 2. Some cases are much improved by surgical treatment. 3. In these cases the glands form a movable palpable tumor, usually under the lower part of the left rectus muscle. 4. As next to bronchial tuberculous glands, tuberculous mesenteric glands are the most frequent focus of general tuberculous infection, operation should be undertaken. 5. Caseous glands should be incised, evacuated, gently curetted and closed with a stitch which throws the walls into folds. 6. These patients do very well so long as operation is not put off too long.

Medical Press and Circular, London.

September 23.

39 Organic Nerve Disease and Heart Affections. Prof. Schlesinger.
40 Tuberculous and Tuberculously-Disposed Children. T. N. Kelynack.
41 Clinical Pathology of Aural Discharges. W. Wingrave.
42 Cerebrospinal Meningitis. W. L. Thomson.
43 Bilateral Ovarian Cysts. W. B. Bell.

Clinical Journal, London.

September 23.

44 Atonic Dilatation of the Stomach. E. Young.
45 *Scopolamin-Morphin and Chloroform Anesthesia. H. MacNaughton-Jones.
46 *Carcinoma of Both Breasts. W. M. Willis.

45. This article was published in the *British Medical Journal*, Sept. 19, 1908, and was abstracted in THE JOURNAL, October 17, p. 1378.

46. **Carcinoma of Both Breasts.**—Willis reports a curious case in which a woman, aged 39, consulted him for trouble with the left breast, which was at first held to be chronic mastitis. There was at first no tumor, but induration of the whole gland, chiefly above the nipple. This was in December, 1904. When seen in April, 1905, she was advised to have the breast removed, but decided to wait until after her confinement, which occurred in July. Willis' diagnosis was shared by another surgeon, who also diagnosed chronic interstitial mastitis and advised removal. In February, 1906, she was seen by another surgeon, who formed the same opinion as to the condition, but did not advise operation. She was lost sight of until early in 1908, when Willis again saw her. The left breast showed little change from 1905; no definite tumor, but induration of the whole gland with enlarged axillary glands, but the right breast was also now affected in the same way as the left. This had been coming on, she said, for about twelve months. The skin was not adherent in either case, nor was either gland adherent to underlying fascia. Both nipples were retracted, and there were enlarged glands in both axillæ. Both breasts with axillary glands were removed, at a fortnight's interval. Each breast was microscopically examined, and in each case the primary growth and the axillary glands showed carcinoma. The author asks, Was the condition in the left breast really chronic interstitial mastitis, or was it carcinoma from the very beginning? The absence of a definite tumor, the diffuse character of the induration, the tenderness, the non-implication of the skin or underlying structures, all made it probable that it was chronic inflammation. As to the right breast, was it carcinoma from the beginning and was it a direct dissemination of this disease from the left breast? Willis' view is that the left breast was originally, and when he first saw it, the seat of chronic interstitial mastitis; that in this breast carcinoma developed; and that the right breast was carcinomatous from the commencement of disease in it, and that this was brought about by direct continuity from the left breast. This case more than ever confirms Willis in the opinion that chronic inflammatory affections of the breast which do not show signs of improvement, after a period of four to six weeks, should be removed; and that it is safest to remove swellings of the breast the nature of which is doubtful.

Bristol Medico-Chirurgical Journal.

September.

47 Early History of the Bristol Royal Infirmary. J. F. Bush.
48 Ten Cases of Operation for Perforated Gastric Ulcer. C. A. Morton.
49 Surgical Aid in Chronic Ulcer of the Stomach. J. A. Nixon.
50 *Aural Complications of Influenza and Their Treatment. H. F. Mole.
51 Renal Changes in Case of Hemorrhage into the Pons with Consequent High Blood Pressure. J. M. Clarke.
52 Severe Trigeminal Neuralgia Successfully Treated by Excision of Gasserian Ganglion. E. W. H. Groves.
53 Complications of Ruptured Liver. L. S. Smith.

50. **Ear Complications of Influenza.**—Mole says that among adults influenza is one of the commonest causes of suppurative otitis, and probably accounts for more cases in children, especially those suffering from adenoids, than is generally supposed. Influenza may set up acute otitis media, either non-suppurative or suppurative, by way of the Eustachian tube.

The treatment in the non-suppurative form is by antiseptic sprays, nasopharyngeal irrigation, leeches, instillation of warm carbolized glycerin into the meatus, and hot dry applications to the ear. A brisk aperient should be given on subsidence of acute symptoms, the ear should be gently inflated with the Politzer bag or Eustachian catheter. The suppurative form in influenza is often characterized by the extreme acuteness of the process, by ecchymosis, hemorrhagic blebs on the drum and a tendency to involve the mastoid, intense pain of neuralgic character not always immediately relieved on perforation, and deafness. The treatment is the same as that of the other variety, except that free incision of the membrane from top to bottom behind the handle of the malleus should be practiced on the signs of suppuration. He considers thorough cleansing and drying of the ear and packing down to the perforation with moist antiseptic gauze the best after-treatment, if the surgeon can attend to it himself; if not, he orders irrigation, not syringing, of warm boric lotion. Finally, he says that there are cases of postinfluenzal deafness which on examination are found to be of nervous origin. They are probably due to a neuritis of the auditory nerve, though some are supposed to be caused by changes in the labyrinth. There is not infrequently severe tinnitus with them. In this case the treatment consists in the administration of strychnin either hypodermically or by the mouth. The treatment must be persisted in for some weeks, and the quantity increased gradually until a full dose is reached.

Journal Tropical Medicine and Hygiene, London.

September 15.

54 Ruptured Common Bile Duct—Double Laparatomy—Recovery. P. N. Gerrard.
55 *Santonin Treatment of Dysentery. A. D. Brunwin.

55. **Santonin for Dysentery.**—Brunwin refers to a method described by Dr. D. J. Drake of Typoor, Assam, for treating dysentery, by giving 5 grains of yellow santonin three times a day on alternate days, in 2 drams of olive oil. This is continued in every case until the feces become free from blood and mucus, and are normal in color, which usually happens within a few days. He generally follows this for two or three days with bismuth and salol. The rectum may be washed out, but he has found no advantage in this in acute cases. The treatment is preceded by 4 drams of sodium sulphate. Rest and a milk diet are enjoined. Brunwin has followed this treatment for four months in the Colonial Hospital, Suva, Fiji, and is so far satisfied with it that he uses it in preference to any other treatment. His statistics show a slightly shorter course and lower mortality. He believes the duration of acute symptoms to be still shorter than the statistics appear to indicate.

Annales de Gynécologie et d'Obstétrique, Paris.

September, XXXV, No. 5, pp. 513-575.

56 *Endoscopy of the Uterus. (Endoscopie utérine.) C. David.
57 *Fibromyoma of Round Ligament. E. Mériel and Baudet.

56. **Direct Visual Inspection of the Uterus.**—David gives an illustrated description of a uteroscope and of the views obtained with it in various uterine affections. The application is simple and harmless, he says, while it allows the diagnosis of affections which escape other methods of investigation. It is possible by this means to curette the uterus or to apply topical treatment under control of the eye, and it is useful in securing a fragment of tissue for microscopic examination. He uses three sizes, small for the uterus of normal size, and large for the puerperal uterus. It is necessary to dilate the uterus in the non-puerperal cases, and he prefers introduction of a large tent the day before. This dilatation is not an inconvenience or complication of the method, he remarks, but is the inevitable preliminary to any intervention or local treatment inside the organ, and the dilatation has a favorable influence on metrorrhagia. In some instances this dilatation alone, without other measures, was followed by cessation of the previously rebellious hemorrhage. No anesthetic is required; the introduction and the twisting around of the hysteroscope are not felt by the patient. In the colored plate of the findings he shows the aspect of the normal mucosa, the mucosa in endometritis and in cases of neoplasms, retention of the placenta, a patch of gangrene, traumatic perforation, etc.

57. **Fibromyoma of the Round Ligament.**—Mériel's patient was a woman of 52, robust and still menstruating. Abdominal pain, dull and recurring, had been observed at first and a movable, solid, non-sensitive tumor was palpated between the uterus and the bladder; there was no disturbance in micturition. The tumor weighed nearly three pounds and was shaped like a dumb-bell, with the right round ligament forming a small pedicle. Ascites was never observed in the twenty-one cases of these tumors on record. The increase in the pains compelled removal in the case reported, five years after the first symptoms became manifest.

Annales de l'Institut Pasteur, Paris.

Aug. 25, XXII, No. 8, pp. 625-688.

58 *Antagonistic Power of Normal Sera. (L'absorption de l'alexine et le pouvoir antagoniste des sérums normaux.) J. Bordet and F. Parker Gay.
59 Neutralization of Bacterial Toxins. Tiffeneau and A. Marie.
60 *Plague in Algeria and Tunis in 1907. (La peste dans le département de Constantine.) A. Billet.
61 Micro-organism Causing Epidemic Among Cats. (Nouveau microbe pathogène pour les chats.) Z. Skrzynski.

58. **Antagonistic Power of Normal Sera.**—Bordet, continuing his research on the hemolytic test, has found that normal sera display an antagonistic action at times, which may interfere with the fixation of the alexin, and has probably led to erroneous conclusions in some cases in the past.

60. **Prophylaxis of Plague.**—Billet has studied 16 cases of bubonic plague which occurred in Algiers last fall. Sewer rats frequenting a certain grain warehouse were probably responsible for the infection; the rats had become infected before the first clinical case. Some guinea-pigs placed in the houses where plague rats were found became infected and all were covered with the rat flea, *Pulex cheopis*, the tropical variety which transmits the plague. The sewer rat seemed to be the only variety responsible for the epidemic. The disease was apparently stamped out by prompt preventive measures, especially disinfection of the sewers, and this was accomplished most effectually by what he calls "chlorination." A one-third solution of chlorid of lime is poured into the openings of the sewer. Half an hour afterward a one-tenth solution of hydrochloric acid is poured down also. This causes generation of nascent chlorin which rapidly asphyxiates the rats in the sewer, even in its remotest recesses. This gas is so heavy that it sinks into all the nooks where the rats may be lurking; the sulphur method generates a lighter gas which is less liable to reach all the rats. For a poison he used squill, pulverized, 100 gm. (about 3 ounces) incorporated in 2.2 pounds of cooked meat, to which were added 30 drops of essence of fennel. Rats are fond of fennel and are attracted by it. The preparation is made into balls about the size of a nut.

Archiv für Kinderheilkunde, Stuttgart.

XLVIII, Nos. 5-6, pp. 321-582. Last indexed, Sept. 5, p. 873.

62 *Epileptic and Feeble-minded Children. (Epilepsie und Schwachsinnzustände im Kindesalter.) H. Vogt.
63 *Causes of Infant Mortality. (Bewertung der die Säuglingssterblichkeit bedingenden Ursachen.) G. Tugendreich.
64 Home-made Apparatus for Collecting an Infant's Urine and Stools for Research on the Metabolism. (Apparat zum Sammeln von Harn und Kot für Stoffwechseluntersuchung bei Kindern.) J. A. Schabad.

62. **Epileptic and Feeble-Minded Children.**—Vogt discusses in this monograph the connection between a tendency to convulsions in children and epilepsy; genuine and degenerative epilepsy; relations between cerebral paralysis and epilepsy; epilepsy with focal symptoms; relations of epilepsy to inherited syphilis and tuberous sclerosis; hydrocephalus and epilepsy; epileptiform conditions in idiots; the prognosis of epilepsy in children, and medical and social provision for such children. He mentions that 33 out of 116 mentally backward children at the Frankfurt special school suffered from convulsions in early childhood, that is, 28.5 per cent., while the proportion is still larger in certain other institutions of the kind. He remarks that the etiologic importance of syphilis in the epilepsy of adults is being recognized more and more; it is of the nature of a functional neurosis in these cases. The attacks occur at longer intervals, but the main difference

from genuine epilepsy is the absence of deterioration of the mental faculties. In children with inherited syphilis, organic epilepsy may occur in any of its various forms. From one-third to one-half of all epileptics show some indication of the disease before they are 10 years old. Further research is needed, he says, on the subject of metabolic epilepsy; toxemia plays an important part in bringing on the attacks. More exact neurologic indications for surgical treatment are also needed. He does not approve of excluding epileptic children from school on account of the other children alone; the teacher should be asked to be more lenient to a little inattention and restlessness. The mentally deficient belong of course in the schools for backward children. Vogt, who is director of the Neurologic Institute at Frankfort a. M., adds that there the epileptic children number about 0.2 per cent. of the total population.

63. **Causes of Infant Mortality.**—Tugendreich points out that the statistics in regard to infant mortality are based on such different premises that they are useless for purposes of comparison. He suggests that the one important and prevailing factor in infant mortality is the method of feeding. This should be the basis for comparative statistics, as it is the really important element in the effects of summer heat, lack of hygiene, poverty, climatic influences, etc., which are variously cited as the cause of the infant mortality. The mortality of breast-fed and of artificially fed infants should be listed separately. When this is done it is seen that climatic conditions, sultry heat, poverty, and all conditions which are supposed to explain the infant mortality have little influence on the breast-fed children—only the artificially fed children succumb to their action. He shows this anew by a group of infants at Berlin brought regularly to the "infant consultation" in his charge. The father's wages in these cases ranged from $4.50 to $6 a week, and he lists only those families with four children at least. His figures show that in 64 families with 377 breast-fed children the mortality was 19.8 per cent.; in 33 with 229 bottle-fed children the mortality was 43.2 per cent. In 24 families with 109 children, some raised on the bottle and others breast-fed, none of the latter died, while half of the bottle-fed children succumbed. In 13 other "mixed" families with 47 breast-fed and 23 bottle children, all the latter died. He exclaims that this material confirms anew that breast feeding is able to counteract the evil effects of poverty, unhygienic surroundings and summer heat, and rear healthy children. He remarks in conclusion that he does not know of any systematic research on the metabolism of nursing women. As a contribution to the subject he had 70 of the nursing women weighed during three months. The findings showed that the women gained in weight while nursing, even on the insufficient nourishment of the lower classes. Only very few lost in weight, much fewer than a control group of mothers of bottle-fed children.

Berliner klinische Wochenschrift.

September 21, XLV. No. 38, pp. 1709-1758.

65 *Action of Thyroid Substances. (Wirkung der Schilddrüsenstoffe.) F. Krauss and H. Friedenthal.
66 Treatment of Experimental Nagana with a Mixture of Atoxyl and Thioglycolic Acid. E. Friedberger.
67 *Behavior of Serum of Scarlet Fever Patients in Syphilis Serum Test. (Verhalten des Serums von Scharlachkranken bei der Wassermann'schen Reaktion auf Syphilis.) F. Hoehne. Id. E. Seligmann and F. Klopstock.
68 *Local Tuberculin Reaction in Diagnosis. A. Erlandsen.
69 Ergographic Study of Tremor. L. Panichi.
70 *Importance of Disturbances in Optic Nerve in Incipient Multiple Sclerosis. (Bedeutung der Sehnervenerkrankungen im Frühstadium der multiplen Sklerose.) Schley.
71 *Origin of Diabetes Mellitus. (Zur Lehre von der Entstehung des Diabetes mellitus.) L. Bleibtreu.
72 *Treatment of General Affections with Light and Moving Air Baths. (Behandlung von Allgemeinerkrankungen mit strömender Luft.) M. Herz.
73 Idiosyncrasies. E. Hess.
74 Fauost Vacuum Pump in Medicine. (Die Wasserstrahlluftpumpe im Dienste der Medizin.) A Strauss.

65. Action of Thyroid Substances.—This article describes research on the reciprocal action of thyroid substances and of adrenalin, throwing light on the origin of exophthalmic goiter. The work was done in Kraus' laboratory at Berlin, and confirms the physiologic antagonistic action of the internal secretions of certain glands. The most striking results were those obtained with simultaneous administration of thyroid juice and adrenalin—the effect on the pulse being an increase in the height of the excursions, skipping occasionally the diastolic pauses, but none of the delay or galloping observed with either alone; this is the so-called "action-pulse." Another important finding was that intravenous injection of the thyroid juice acted on the enucleated eyeball of the frog in the same way as adrenalin; also that the blood of patients with exophthalmic goiter caused mydriasis in the enucleated eyeball of the frog. This latter fact may be utilized, perhaps, the authors say, in determining the progress of recovery in exophthalmic goiter under treatment. The participation of the suprarenals in the clinical picture of exophthalmic goiter seems more probable now, and it may be possible that the indications for operative intervention may be more strictly drawn henceforth.

67. **Negative Serum Test for Syphilis Applied in Scarlet Fever.**—These communications from Ehrlich's institute at Frankfurt and from the Berlin hospitals report extensive experiences with 183 and 30 scarlet fever patients which demonstrate that the specific serum test for syphilis does not give a positive reaction in scarlet-fever patients or after recovery from the disease unless in the presence of syphilis. The second article relates that the antigen extract used for the test spoils readily, and that a spoiled extract is liable to induce a positive reaction. This fact is probably the explanation for the contradictory findings that have been reported by a few investigators.

68. See abstract No. 158 below.

70. **Importance of Affection of Optic Nerve for Early Differentiation of Multiple Sclerosis.**—Schley reports a case which confirms the statements in regard to the differential value of visual disturbances in the onset of this affection. They may occur as a papillitis, retrobulbar neuritis or as an atrophic trouble without preceding neuritis, and these disturbances may be noted for years, on one or both sides, before other symptoms of the multiple sclerosis develop. They may fluctuate or subside partially or entirely. When this is observed in a comparatively youthful person and other causes can be excluded, it is very probable that multiple sclerosis is in question. Far too often the visual disturbances have been ascribed to hysteria and treatment instituted on this erroneous basis.

71. **Origin of Diabetes Mellitus.**—Bleibtreu refers to the autopsy findings in two cases of diabetes which sustain the assumption that the true source of the diabetes is in the nerves innervating the pancreas and duodenum rather than in the pancreas tissue itself. This would explain the cases in which the pancreas is found apparently normal, as also those in which no diabetes occurs, although the pancreas is extremely pathologic. If the nerves are intact no diabetes results. The condition of the nerves, especially the nerve centers in the duodenum and the fibers passing to the pancreas, is the main factor.

72. **Treatment of Constitutional Affections with Moving Air and Light Baths.**—Herz ascribes to the motion of the air a large part of the beneficial effect of out-of-door life, and seeks to obtain this same action by general light baths combined with movement of the air. He has noticed that diabetics feel better in places where there is much sunshine and free movement of the air, and this should prove a guide in treatment. The same applies to gout, supplemented by superheated air locally, to improve the circulation in the parts.

Deutsche medizinische Wochenschrift, Berlin.

September 17, XXXIV, No. 38, pp. 1617-1656.

75 *Treatment of Hysteria. E. Meyer.
76 *Treatment of Tuberculosis with Tuberculosis Immune Blood. (Tuberkulose-Immunblut, Tuberkulose-Immunität und Tuberkulose-Immunblut- (J.-K.) Behandlung.) C. Spengler (Davos).
77 *Connection between Affections of Nose, Accessory Cavities and Throat and Ocular Affections. (Beziehungen der Erkrankungen der Nase, ihrer Nebenhöhlen und des Nasenrachenraumes zu denen des Auges.) H. Kuhnt. Commenced in No. 37.
78 Necrosis of Myomata during Pregnancy. (Nekrose der Myome in der Gravidität.) K. Reinecke.
79 Conception and Menstruation. J. W. Samson.
80 Toxic Nervous Affections Following House Epidemic of Diphtheria. W. Feilchenfeld.
81 Curative Influence of Radium Emanations. F. Davidsohn.

75. **Treatment of Hysteria.**—Meyer is convinced that hysteria, being of psychogenic origin, requires psychic treatment as the base, but that it should be supplemented by all other measures known to medicine, especially the psycho-dietetic. General debility may be the cause of the outbreak of hysteria, and the physician should aim to nourish and strengthen the entire organism by every possible means. He warns against applying Freud's theory of sexual trauma, except by an expert, as liable to do more harm than good. Traumatic hysteria is best prevented by opportunity for work, at the same wages, but with lesser physical demands. It is important to find out what measures were applied by others before instituting treatment of hysteria, so as to avoid these special ones in case they have failed.

76. **Treatment of Tuberculosis with "Immune Blood."**—Spengler thinks that he has demonstrated that the antibodies are produced mainly in the red corpuscles, not in the serum as previously assumed. He declares that this conception explains why any depressing cause, reducing the vitality, by impairing the normal blood production, induces a predisposition to tuberculosis. He bases a system of treatment on these premises, using what he calls tuberculosis-immune-blood for the purpose.

77. **Relations Between Affections of the Nose and Throat and Ocular Affections.**—Kuhnt's article was read at the First International Congress of Laryngo-Rhinology at Vienna last spring; it summarizes his extensive experience as professor of ophthalmology at Königsberg. He reviews the various relations; mechanical, reflex, by contiguity, and by disturbance in the circulation. Affections of the lachrymal duct were of rhinogenic origin in 93.7 per cent. of his cases, and consequently, he demands treatment of the nose and sinuses as indicated before making a prognosis. A nasal affection was also discovered in 65.5 per cent. of 443 cases of trachoma in his experience, and he calls attention anew to the subsidence of exophthalmos after removal of adenoid growths. He thinks it possible that, besides the thyroid, other organs, such as the tonsils, may alter their physiologic functioning and produce morbid products or cease to neutralize toxins, which would explain the connection between adenoids and exophthalmos. He has always discovered some old empyema of the antrum in every case of thrombosis of the central vein, and in one case of thrombosis of the artery. In rare cases detachment of the retina may be induced by transportation of some injurious agent into the anterior portion, causing exudation in the vitreous body with later shriveling. He found that the orbital process was dependent on a sinusitis in 0.29 per cent. of his cases, and others have reported much higher proportions. It is seldom that the physician is able to detect an old healed sinusitis leaving the persisting orbital complication. Kuhnt emphasizes the importance of examination of the central color perception as an aid for differentiating sinusitis. One of the first ocular signs of the condition is the change in the perception of red and green. The pericentral scotoma may form a closed or a broken ring, and blend gradually into the intact peripheral field. In case of empyema, functional disturbances may be observed. Muscular asthenopia is the most frequent, but there may be disturbance in accommodation and reduction in the visual field. Kuhnt, in 20 per cent. of his cases of empyema, noted that the visual field was restricted for colors or for white alone. He attributes these disturbances to absorption of products of suppuration, whether the products are absorbed through the mucosæ of the nose, throat or sinus or are swallowed. It is his impression that there is a reaction at present from overactive surgical measures, but he warns that this reaction must not be allowed to go too far.

Deutsche Zeitschrift für Chirurgie, Leipsic.

August, XCIV, Nos. 1-2, pp. 1-200.

82 *Treatment of Severe Bullet Wounds of the Lung by Primary Suture. (Behandlung schwerer Schussverletzungen der Lunge mit primärer Naht.) R. Küttner.

83 *Cysts near Bladder and Prostate. (Retrovesikale und retroprostatische Cysten.) W. Liebi.

84 *Gallstone Ileus. (Gallenstein-Ileus.) R. Lesk.

85 Complete Exclusion of Large Intestine for Rebellious Intestinal Hemorrhages in Syphilis. (Komplette Ausschaltung des Dickdarms wegen hartnäckiger Darmblutungen bei Syphilis.) Canon.

86 Two Cases of Traumatic Motor Aphasia. M. Kirschner.

87 Postoperative Ileus from Re-enforcing Suture. (Ileus durch Entspannungsnähte.) B. Fischer.

88 *Operative Treatment of Gunshot Wounds of Spinal Cord. (Operative Behandlung der Rückenmarksschüsse.) W. Braun and M. Lewandowsky.

89 Operative Reduction of Congenital Dislocation of the Knee. (Zur Frage der blutigen Reposition bei Luxatio genu congenita.) H. v. Salis.

90 *Beit to Expel Blood from Lower Part of the Body. (Zur künstlichen Blutleere der unteren Körperhälfte nach Momburg.) H. Rittmann.

91 Technic for Removal of High Rectal Cancer in Men. (Zur kombinierten Exstirpation der hochsitzenden respektive hoch hinaufreichenden Mastdarmcarcinome bei Männern.) R. Torikata.

92 Three Cases of Perforating Gunshot Wounds of Gastrointestinal Tract with Recovery. (Kasuistischer Beitrag zu den Schussverletzungen des Magendarmtraktus und den Perforationen chronischer Magengeschwüre.) P. Schroeter.

82. **Primary Suture of Bullet Wound of the Lung.**—Küttner had three patients with bullet wound in the lung at about the same time. One was treated by primary suture and left the clinic in comparatively good health on the twenty-fifth day, the ultimate results being satisfactory in every way, while one of the other patients, who was treated conservatively, required hospital care until the seventy-eighth day and was left with considerable retraction of the chest wall, scoliosis and displacement of the heart, with restriction of the area of resonance over the lung. Küttner reviews five cases of primary suture of the lung on record, the experiences to date confirming the advantages of primary closure of the pleura. He intends in future to evacuate the extravasated blood in such cases if it is not promptly absorbed, refraining from draining thereafter and suturing the pleura at once. The introduction of the technic which allows the pressure in the lung to be maintained undisturbed when the chest is opened, has rendered such operations comparatively harmless. He operated in the Sauerbruch cabinet in his case. The conditions were much more serious in this than in the two other patients treated conservatively at the same time, but the outcome was incomparably better.

83. **Cysts in or Near the Prostate or Behind the Bladder.**—Liebi states that in 8 of the 26 cases of these cysts on record the patients succumbed, while only 8 permanent recoveries are reported in the 12 cases listed as cured. He summarizes the details of the various cases and adds one from his own experience. His patient was a man of 46 with disturbances in micturition for three months before they became so severe that operative intervention was required. A cystic lymphangioma was discovered and removed from the prostate region, but its recurrences made four operations necessary in the course of two years. There are indications at present two years later of a probable slight recurrence, but as it causes no disturbance the patient refuses further operative intervention.

84. **Gallstone Ileus.**—Lesk reports 5 cases from Schnitzler's service at Vienna in which the patients were cured by operation, with one exception. He also summarizes 8 other cases terminating fatally at once or in recovery without operation. Twenty-two pages are devoted to tabulated details of 148 cases which he has collected from the literature. The patients were mostly women; the clinical picture was remarkable on account of the mildness of the symptoms, and the almost entirely symptomless development of the communication between the gall bladder and duodenum, which was the usual mode of passage of the gallstone into the intestine. This communication was discovered in 22 cases that came to autopsy. The initial symptoms were always mild, but vomiting occurred early, and a loop of the intestine could be seen to be dilated but not stiff, while the temperature remained normal and there was only moderate leucocytosis. Periods of total obstruction alternated with periods in which the bowel was open. As the obstruction is caused by a migrating foreign body, new segments of the intestine are constantly being involved, with resulting overexertion and exhaustion at successive points.

88. **Operative Treatment of Bullet Wound of Spinal Cord.**—Braun gives a detailed description of a case of gunshot wound of the spinal cord treated by prompt operative intervention

four years ago. The case is discussed both from the neurologic and the surgical aspect, and extensive experimental research is also described undertaken to determine more exactly the conditions with a bullet or other foreign body in the spinal cord. The literature on the subject is analyzed. The conclusions from all this material are in favor of operative measures when the symptoms indicate functional disturbances from compression or irritation, but delay seems to be advisable until the possibility and probability of spontaneous retrogression have been determined and the topical diagnosis made reasonably certain. Mild cases with slight symptoms do not indicate operative measures. The smaller the projectile the less need for urgency, as there is room in the spinal canal for a small forign body without its encroaching on the spinal cord. Shot sometimes heal in place without causing disturbances. On the other hand, the smaller the projectile the greater the difficulty in locating it. When there are severe symptoms on the part of the spinal cord, and improvement is very slow or fails to occur, an operation is indicated even when there is a suspicion of a transverse severing of the cord. The delay should not be too long under these conditions. Osteoplastic methods are too hazardous; the preferable technic is to drill into the spinal canal through a neutral arch with the fraise, after removal of the spinous processes, and cautiously cut away the arches with large gouge forceps.

90. **Momburg's Method of Expelling the Blood from Lower Half of the Body.**—Rimann adds a third to the other cases that have been reported, in which a major operation was performed after the blood had been expelled from the lower part of the body by a belt drawn very tight around the waist midway between the crests of the ileum and the costal arch. The technic was described in THE JOURNAL, July 11, 1908, page 177. The results have been satisfactory, and no injurious by-effects have been reported.

Jahrbuch für Kinderheilkunde, Berlin.

September 2, LXVIII, No. 3, pp. 261-390.

93 The Cutaneous Tuberculin Test according to v. Pirquet. (Die cutane Tuberkulinprobe.) M. Brückner.
94 *Problems of Antitoxin Treatment of Diphtheria. Felix v. Szontagh.
95 Growth of Head and Face. (Wachstum des Kopfes und des Gesichtes.) S. Weissenberg.
96 *Hourglass Stomach in Children. (Sanduhrmagen der Kinder.) H. Klose.
97 Cancer in Liver or Kidney in Two Small Children. (Zwei interessante Fälle von bösartigen Neubildungen bei kleinen Kindern.) P. W. Philipp.

94. **Some Questions in Antitoxin Treatment of Diphtheria.**—Szontagh has waited until his cases of diphtheria reached 1,000 before formulating his final opinion on the value of antitoxin treatment. Its local action, he says, is established beyond question, but he can not accept an antitoxic power. After a certain limit is reached, the efficiency of the serum ceases to keep pace with the number of units injected. Antitoxin introduced into the circulation does not seem able to free the bound toxin. The fulminating cases are probably the result of mixed infection. In two cases in his experience a non-diphtheric phlegmonous inflammation simulated true croup. It is possible that this may be the explanation of the failure of antitoxin in certain cases of supposed diphtheria.

96. **Hour-glass Stomach in Children.**—Klose reports a case of tuberculous changes in the stomach causing constriction in the center, enlargement of the cardia and extreme enlargement of the duodenum. The patient, a girl of 12, was cured by gastroenteroanastomosis, the child gaining thirty pounds during convalescence. He reviews the other cases on record of hour-glass stomach in children, and the various methods with which it was corrected. Wullstein's technic has not been applied in the clinic, but seems to offer superior advantages, as it restores the stomach to normal shape, within and without, although it is not opened. There is thus no danger of hemorrhage and no assistant is required. The spur causing the constriction is got rid of by inducing gangrenous degeneration. He gives an illustrated historical sketch of hour-glass stomach in children, remarking that modern methods of diagnosis have robbed it practically of most of its dangers.

Medizinische Klinik, Berlin.

September 20, IV, No. 38, pp. 1439-1480.

98 *Paravertebral Area of Dulness in Pleurisy. (Paravertebrale Dämpfung bei Pleuritis.) M. Matthes.
99 *Anatomic Findings in Epilepsy after Trauma. Tilmann.
100 Relations between Menstruation and Unilateral Ovarian Tumors. (Menstruationsverhältnisse bei einseitiger Ovarialgeschwulst.) H. Fürth.
101 Atrophy and Hyperplasia in the Liver in the Tuberculous. (Vorkommen von Gewebsatrophien und -hyperplasien in der Leber bei Tuberkulösen.) Jores.
102 Roentgen Treatment of Cutaneous Affections. (Röntgentherapie der Hautkrankheiten.) F. Zinsse.
103 *Carcinoma of the Gland of Bartholin. F. Frank.
104 Successful Circular Suture of Brachial Artery. (Zirkuläre Arteriennaht beim Menschen.) E. Martin.
105 *Meningism and Meningoencephalitis in Croupous Pneumonia. L. Kirchheim.
106 *Diagnosis and Specific Treatment of Latent Endothoracal Glandular Tuberculosis in Children. (Diagnose und spezifische Behandlung der latenten endothorakalen Drüsentuberkulose des kindlichen Alters.) Dautwiz.

98. **Grocco's Paravertebral Area of Dulness in Pleurisy.**—The nine leading articles in this issue of the *Klinik* proceed from the Academy for Practical Medicine at Cologne, where the "Naturforscher Congress" was held. Matthes discusses Grocco's triangular dulness in pleurisy with effusion and the mechanism of the sign. He gives some skiagrams from his clinical experience which show that displacement of the mediastinum is not responsible for the dulness, neither is relaxation of the lung. The more probable explanation is that the vibration of the spine is impeded by the presence of the pleuritic effusion, thus interfering with the resonance of the region. The pressure of the fluid aids in suppressing the vibration, and of course this pressure is greatest at the bottom and subsides toward the top of the accumulation of fluid, which explains the triangular shape of the dulness. This also explains possibly why the area of dulness changes its position as the patient reclines on the affected side. He regards this sign as valuable for the diagnosis of pleurisy with effusion, especially when circumstances forbid exploratory puncture, although he warns that the findings may be negative when the effusion is being rapidly reabsorbed and also that the sign may be present in certain other affections, such as a cavity in the lower lobe, as his experience has demonstrated.

99. **Anatomic Findings in Epilepsy Due to Trauma.**—Tilmann reports seven cases of epilepsy in patients with a history of injury involving the skull, in which he operated. The results were so encouraging that he thinks it possible that modern research on the brain may yet reveal local foci in cases of epilepsy even without a known history of trauma. The interval between the injury to the skull and the operation ranged from three months to thirty years in his cases. In three of the cases the epileptic manifestations commenced soon after the accident, and the local findings were alike in each: a scar in the pia with no adhesion to the dura but grown to the brain below so that some of the latter had to be extirpated with it. The scar was in the central region in all these cases, so that the assumption seems plausible that in cases of injury of the central region the resulting scars are peculiarly liable to induce epileptic disturbances. In another case the old scalp wound corresponded to the arm center. Thirty years had elapsed between the injury and the first seizure. The operation revealed an injury of the dura and pia, just below, the brain itself being intact. When the dura and pia grow together epilepsy does not follow so soon as when the brain is involved. In two of the cases the injury was the result of a bullet wound. In the first case eight and in the second eighteen years had elapsed between the injury and the first seizure, and there was nothing to indicate that the old, healed, nonsensitive scar had anything to do with the epilepsy. The wound was in the frontal lobe in the first and in the temporal lobe in the second case. A cyst was found under the scar in each case, and there has been no recurrence of the epileptic symptoms since their removal. In another case epilepsy developed ten years after an apparently harmless trauma of the skull, with no probability of injury of the brain. Operation revealed periostitis, with a tendency to bone formation, between the skull and dura at the point of the old injury in the frontal lobe. The results of operation were good in every instance, and full earning capacity was restored, even in the

case of a man of 49 who had had epilepsy for twenty years. Tilmann sutures the skull flap in place, and he urges trephining in every case of epilepsy in which there is a history of injury of the skull at any time. His experience seems to indicate that in case of lesions of the brain, at a distance from the central region, decades may pass before the condition in the brain develops which induces epileptic seizures. His patients were between 17 and 49 years old.

103. **Cancer of the Gland of Bartholin.**—Frank reports a case and reviews the literature on the subject, remarking in conclusion that many a cancer would not develop if trivial local lesions were treated thoroughly and rationally. By rational treatment he says he means smooth excision and careful suture—not applications of caustics or of the actual cautery—these do no good or may even give the first impetus to malignant disease. In his twenty-five years experience with cases of erosions, ulceration, thickening, etc., in the vulva and vagina, treated on these principles, he has never witnessed cancer develop later. He advises careful scrutiny of the vulva in all gynecologic examinations, with excision of any thickening or small tumor as a preventive measure.

105. **Meningeal Symptoms in Croupous Pneumonia.**—Kirchheim has observed symptoms of meningeal irritation in 13 out of 500 cases of pneumonia. The prognosis did not seem to be rendered graver by the meningeal complication. In another series of cases pneumococcus meningitis was observed differing only in the bacteriologic findings from meningococcus meningitis. He classifies these meningeal cases as pneumonia with meningism, pneumonia with secondary meningo-encephalitis, and independent pneumococcus meningitis.

106. **Endothoracal Glandular Tuberculosis in Children.**—Dautwiz comments on the difficulty of diagnosing glandular infection in the thorax in children, even with the aid of the Roentgen rays. It is necessary to bring all the diagnostic procedures to bear on the case, and if tuberculous glandular lesions are found they should never be neglected. The anamnesis is extremely important, but requires time, trouble and patience to elicit it. Glandular tuberculosis does not cause complaints. Older children may mention a pain in the chest when they breathe deep or during violent physical exertion. Tenderness at McBurney's point may reveal involvement of the mesenteric glands accompanying glandular tuberculosis at the hilus. It must not be forgotten that children with glandular tuberculosis may present the picture of perfect health in the face, with rosy cheeks and good appetite. In some cases a bluish tint in the ruddy cheeks or the dry, flabby skin on the body or a unilateral flush in the face may suggest trouble. Sometimes the temporal veins are enlarged. He declares that the detection of endothoracal glandular disease is the most important task of the medical inspectors of schools, and they should be given every facility for it. After passing in review all the minor points useful for differentiating the glandular involvement, he relates favorable experiences with tuberculin treatment of tuberculosis of the endothoracal glands alone. He uses the tuberculin according to Sahli's method, and keeps constant control over the results with the Roentgen rays, which reveal the progress of the healing process. He regards tuberculin treatment as contraindicated when the lungs are already involved; it actually seemed to promote the pulmonary process in such cases. The children taking tuberculin treatment have a special school arranged for them in the hospital by the board of education, as the course requires from six to eight months.

Monatsschrift für Geburtshülfe und Gynäkologie, Berlin.

September, XXVIII, No. 3, pp. 257-382.

107 *Importance of Breast Feeding for Reduction of Infant Mortality and Means to Promote it. (Bedeutung des Selbststillens im Kampfe gegen die Säuglingssterblichkeit.) R. T. Jaschke. Commenced in No. 2.

108 Embryologic Study of Acardia. (Herslose Missgeburten.) G. Schubert.

109 Obligatory Prophylaxis of Ophthalmia Neonatorum. (Zur obligatorischen Credéisierung der Neugeborenen.) H. Hellendall.

110 Conglomeration of Pointed Condylomata. (Spitze Condylome von besonderer Grösse.) A. Bauer.

111 *Blood Findings in Puerperal Fever in Respect to Prognosis. (Ergebnisse der Blutuntersuchung in prognostischer Hinsicht beim Wochenbettfieber.) K. Himmelheber.

107. **Importance of Breast Milk.**—Jaschke reviews what has been done to promote breast nursing in various countries, and states that physicians should be more impressed with the urgent necessity for advising it. He discusses different measures that might be introduced to render it more popular, remarking that there seems to be a lack of reliable books written by competent physicians to appeal to the pregnant woman in favor of the natural method of infant feeding. The popular guides to motherhood are written mostly by comparatively irresponsible writers.

111. **The Blood Findings for Prognosis of Puerperal Fever.**—Himmelheber reviews the work that has been done in this line, none of which has definitely decided the question of the prognosis.

Münchener medizinische Wochenschrift.

September 15, LV, No. 37, pp. 1913-1960.

112 *Prevention of Puerperal Fever. (Verhütung des Kindbettfiebers.) M. Hofmeier.

113 *Palliative Trephining for Choked Disc. (Palliativtrepanation bei Stauungspapille.) E. v. Hippel.

114 Staining Technic for Showing up Pigment and its Colorless Preliminary Stages, with Special regard to Eye and Skin Pigment. (Methode zur Darstellung von Pigmenten und ihrer farblosen Vorstufen.) L. Schreiber and P. Schneider.

115 *Influence of Lightning Electric Treatment on Vitality of Cells. (Einfluss der Fulguration auf die Lebensfähigkeit von Zellen.) T. v. Wasielewski and L. Hirschfeld.

116 *A Frequent Apparently Hitherto Undescribed Affection of Certain Bones in Children. (Eine häufige, bisher anscheinend unbekannte Erkrankung einzelner kindlicher Knochen.) A. Köhler.

117 *Specific Reaction of Adrenalin. (Zur Kenntnis der drucksteigernden Substanzen.) G. Comessatti.

118 *Eye Crises in Tabes. (Ueber Pel'sche Augenkrisen und einige seltenere Sensibilitätsstörungen bei Tabes dorsalis.) A. Knauer.

119 Two Cases of Dislocation of Metatarsophalangeal Joint. F. Wette.

120 Hypnosis in Treatment of Hay Fever. (Therapie des Heufiebers.) A. A. Friedländer.

121 Gastrotribe. A. Ach.

122 *Mica Plates for Research on Red Corpuscles. (Untersuchungsmethoden über Erythrozytenformen.) K. Yamada.

123 Reaction of Dry Gelatin to Moisture and its Importance for Preservation of Meat Juice. (Die Feuchtigkeitsreaktion trockner Gelatine und ihre Bedeutung für die Präservierung von Fleischsaft.) G. Richter (St. Louis).

112. **Prevention of Puerperal Fever.**—Hofmeier reviews his experience with 10,000 lying-in cases during the last nineteen years, this material being constantly used for teaching purposes. His experience confirms the general statistics that about 0.5 per cent. of all deliveries terminate fatally. The mortality in his experience from puerperal fever was 0.09 per cent., and only four of the nine fatalities could possibly be ascribed to institutional infection, and in two of these cases it is scarcely probable. He cites these results as demonstrating the superiority of the management of obstetric cases in his service at Würzburg. He does not use rubber gloves, but lays great stress on avoidance of contact with virulent material elsewhere, and also on the importance of careful cleansing of the external genitals, regarding the condition as requiring the same care as a major operation. In his last 1,000 cases there were 66 patients with contracted pelvis requiring serious operative intervention. All the women recovered and there was only 3.5 per cent. morbidity.

113. **Palliative Trephining for Choked Disc.**—Hippel has been studying the literature on the subject of trephining as a means of relieving disturbances of vision resulting from compression of the brain. Little has been done in this line in Germany, and his material is mostly collected from American sources. He has found 221 cases on record, and in 129 cases in which there was still good vision, 61 of the patients were materially improved or cured. In 92 cases the patients were already blind and no benefit resulted as the operation came too late. His conclusions are that if the operation can be done in a relatively early stage the prospects are good, not only for retention of vision, but for an ultimate cure. When deferred to an advanced stage the outlook is unfavorable or bad. The best prospects are offered in syphilis, chronic hydrocephalus, swelling of the brain and deformities of the skull. The resistance of gumma of the brain to specific treatment is often so great that medical measures alone are unable to check the development of blindness from choked disc, and the palliative trephining or even lumbar puncture alone may trans-

form an otherwise hopeless condition. The life expectancy also seems to be lengthened by the operation, and he advocates it in all cases of choked disc when seen early enough. The family should be informed that the operation is not free from danger, but that without it blindness is almost inevitable, while the survival is usually longer and life is made more bearable as the headache and vomiting are generally banished by the operation. The danger of the operation can be reduced by using chloroform instead of ether, operating at two sittings, cocainizing the dura before it is incised, to prevent reflex action on the respiration center, and avoidance of abrupt measures. He prefers simple trephining with definite removal of the bone rather than osteoplastic measures. The soft parts must be carefully sutured to prevent prolapse of the brain. After the first sitting, ophthalmoscopic examination will show whether it is necessary to continue the operation. It is not always necessary to open the dura. The choked disc recedes sometimes at once, but in other cases days or weeks may be required. The greatest emphasis is laid on operating in time, before the affection has induced irreparable injury. He urges that surgeons should refrain from publishing their experience with cases until they have been under observation for six months or a year after the operation.

115. **Influence of Lightning Treatment on Vitality of Cells.**—Wasielewski relates extensive experimental research with the Keating-Hart fulguration application of electricity, applied to mouse tumor cells. Among other things he found that the radium rays require three hours to produce the same destructive effect as the lightning in 30 minutes. He also found that congelation with carbon dioxid, applied at the same time as the fulguration, completely annulled its effect.

116. **A Frequently, Apparently Hitherto Undescribed Affection of Certain Bones in Children.**—Köhler has encountered three cases of a painful affection of the patella or scaphoid in children, all observed in the course of a few months. His patients were boys between 5 and 9, and the Roentgen findings are given for comparison, all showing the small size of the bone during the painful periods and its gradual complete restoration to normal in the course of two or three years, undisturbed by any complications. The cure was complete, both clinically and anatomically. He is convinced that this affection is an entity which deserves attention, especially as his experience warns most decidedly against operative intervention. It is possible that the bones affected are those in which the ossification center develops the latest, and he thinks it probable that this affection has been diagnosed as of tuberculous origin in many cases. In his experience, none of the children presented signs of rachitis.

117. **Specific Reaction of Adrenalin.**—Comessatti states that the addition of an aqueous solution of mercury bichlorid to a solution of adrenalin stains the fluid permanently red. This sublimate test will differentiate adrenalin even in the presence of pyrocatechin, and it shows in tests with suprarenal substance that the proportion of adrenalin in the suprarenals is much lower in nephritic patients than in those without nephritis. It also shows a difference, in respect to the adrenalin content, between the cortex and the medulla.

118. **Eye Crises in Tabes.**—Knauer has been able to find on record only three cases of Pel's eye crises. But he has recently observed a typical case in a woman of 36, with other peculiar disturbances in sensibility which he describes in detail.

122. **Mica Plates for Research on Red Corpuscles.**—Yamada uses two very thin superposed sheets of mica, two edges being fastened together with paraffin. The blood is taken up by capillary attraction, after which the other edges are sealed with paraffin. This technic delays agglutination.

Virchows Archiv, Berlin.

September, CXCIII, No. 3, pp. 370-553.

124 Occurrence of Tuberculosis and Tumor in the same Organ. E. E. Franco.
125 Primary Sarcoma of the Pancreas. J. J. Schirokogoroff.
126 Primary Carcinoma of the Liver. (Primäre Leberkarzinome.) A. Theodorow.
127 Pathogenic Importance of the Bacillus of Gaseous Phlegmon. W. H. Schultze.
128 *Phlegmonous Duodenitis. E. Ungermann.
129 Bronchitic and Postpneumonic Processes of Obliteration in the Lungs. K. Hart.
130 *Subcutaneous Necrosis of Fat Tissue. O. Berner.
131 *Rachitic Changes in the Skeleton in Ancient Times and in the Middle Ages. (Vorkommen rachitischer Skelettveränderungen im Altertum und im Mittelalter.) W. Ebstein.
132 Improved Technic for Opening the Abdomen. (Neue Schnittführung bei der Sektion gynäkologisch wichtiger Fälle.) W. Liepmann.
133 Ultrarapid Triple Stain. (Neue und sehr schnelle Dreifach-Färbung.) V. Bonney.
134 Origin of Ulcers from Dilatation in the Intestine. (Dehnungsgeschwüre im Darm.) S. Meidner.

128. **Phlegmonous Duodenitis.**—Ungermann adds another to the seven cases of phlegmonous enteritis on record. It seems to be a streptococcus inflammation of the interstitial layer of the intestinal wall.

130. **Subcutaneous Fat Tissue Necrosis.**—Berner knows of only three cases of fat tissue necrosis without direct connection with the pancreas. He relates a case in which an elderly workman presented subcutaneous fat tissue necrosis at various points on the hands and legs. A tumor was found in the pancreas, but the subcutaneous fat tissue necrosis nodules did not seem to be metastases of the epithelioma in the pancreas.

131. **Rachitis in Ancient Times.**—Ebstein's scholarly research has revealed that rachitis was described in medical literature of ancient times and of the middle ages.

Wiener klinische Wochenschrift.

September 17, XXI, No. 38, pp. 1317-1346.

135 *Treatment of Internal Surgical Tuberculosis with Marmorek's Antituberculosis Serum. O. Grüner.
136 *Familial Tetany. G. Saiz.
137 Tetany following Phosphorus Intoxication. (Tetanie bei Phosphorvergiftung.) K. Wirth.
138 *Paget's Deforming Osteitis. (Zur Kenntnis der Pagetschen Knochenerkrankung.) K. Glaessner.
139 *Roentgen Treatment of Exophthalmic Goiter. G. Schwarz.

135. **Marmorek's Antituberculosis Serum.**—Grüner reports experiences with this serum in 32 cases, and a number of experiments. The results were almost entirely negative, and even when mixed in the test-tube the serum was unable to attenuate or prevent the cutaneous reaction to tuberculin. Mixed with tuberculin in the proportion of 100,000 parts, it failed to prevent or attenuate the subcutaneous tuberculin reaction (*Stichreaktion*).

136. **Familial Tetany.**—Saiz practices at Trieste, and he never encountered any cases of tetany until the last few months, when nine cases came under his observation. They were in four families, although the members reside in different parts of the town. The course of the cases and their features confirm the assumption that tetany is the result primarily of an innate functional weakness of the parathyroids.

138. **Paget's Deforming Osteitis.**—Glaessner reports a typical case of this rare affection in an artisan of 52, in whom the first symptoms were observed six years before. He states that only about 80 cases have been reported to date, although he thinks that probably a number have failed of recognition. In five of the eight cases that came to autopsy there were evidences of malignant disease; otherwise the prognosis as to the life expectancy is not bad. Treatment seems to be ineffectual, and operative measures offer little prospect of success; in Sonnenberg's case no callus had formed, even thirteen months after the operation.

139. **Roentgen Treatment of Exophthalmic Goiter.**—Schwarz reports from Holzknecht's laboratory at Vienna 40 cases of exophthalmic goiter in which Roentgen treatment was used during the last three years. The rays are applied to the thyroid, and thus formally respond to causal indications. He filters the rays through leather, window glass or tin foil, and exposes the thyroid from different sides, so that a given part of the skin is exposed only at intervals of six weeks. The exposures are made every two weeks with 2 "calomel units," corresponding to 3 Holzknecht units; to 0.5 Sabouraud units,

and 4 Kienböck units. The nervous and especially the heart symptoms were promptly and permanently improved. The exophthalmos was improved in 15 patients, the goiter retrogressed in 8, 26 gained in weight, and 36 had the pulse reduced, while the benefit on the nervous system was marked in all. One patient gained 48 pounds with no change in the diet.

Zeitschrift für klinische Medizin, Berlin.

LXVI, Nos. 1-2, pp. 1-200. Last indexed, June 20, p. 2118.

140 *Reciprocal Action of Glands with Internal Secretion. (Wechselwirkungen der Drüsen mit innerer Sekretion.) H. Eppinger, W. Falta and C. Rudinger.
141 *The Sphygmotonograph and its Findings. L. Uskoff.
142 Experimental and Critical Study of Swelling and Rigidity of the Lung. (Lungenschwellung und Lungenstarrheit (v. Basch-Grossmann.) M. Sihle.
143 Determination of Elimination of Endogenic and Exogenic Uric Acid in Gout and other Affections. (Werthestimmung der Ausscheidung der Harnsäure.) P. Weiss.
144 Direction of Dicrotic wave. (Richtung der dikrotischen Welle.) E. Granström.
145 Antitrypsin and Antipepsin in Human Blood Serum. G. Jochmann and A. Kantorowicz.
146 Salt Metabolism in Experimental Neohritis. (Salzstoffwechsel bei experimenteller Nephritis.) H. Schirokauer.
147 *Case of Syphilitic Adams-Stokes' Syndrome. N. Jagic.
148 Dicrotic Pulse with Aortic Insufficiency. N. Ortner.
149 The Neutrophile Blood Picture in Infectious Diseases. J. Arneth.

140. Reciprocal Action of Glands with Internal Secretion.—In the research here reported from von Noorden's clinic at Vienna, the experiments were made on dogs and the reciprocal action of the various ductless glands was studied by removal of two such glands or extirpation of one with the other stimulated to extra functioning. The research was limited to the thyroid, pancreas and the suprarenals. The findings during inanition, after removal of the thyroid, are tabulated, also in respect to the influence of fat and carbohydrates on the transformation of albumin after thyroidectomy; the glycosuric action of adrenalin in normal dogs, and after thyroidectomy; the influence of phloridzin on thyroidectomized dogs, of adrenalin on the metabolism of sugar and albumin in dogs after pancreatectomy, and the findings in respect to diabetes following removal of the pancreas and thyroid. Laws apparently regulating the interaction of the ductless glands and the relations of these glands to the nervous system were discovered. Adrenalin, for instance, seems to act exclusively on the sympathetic system. Its action parallels that of electric stimuli: wherever the electric stimulus induces contraction of the non-striated muscle, adrenalin has the same effect, and where the electric stimulus inhibits, there the adrenalin inhibits also. Adrenalin is thus shown to be a substance possessing great importance for the irritability of the entire sympathetic system. Excessive functioning of the chromaffine cells of the adrenals will therefore entail enhanced irritability on the part of the sympathetic nerves, and deficient functioning will reduce the irritability. It is probable that the pancreas stands in the same relation to the autonomic nerves as the adrenalin-producing cells to the sympathetic. This assumption would explain the adrenalin mydriasis after pancreatectomy. The loss of the promoting influence of the internal secretion of the pancreas on the autonomic sphincter of the pupil allows the antagonistic action to predominate. The internal secretion of the glands has an influence on the condition of excitability of the nerves which innervate each. These relations are most readily apparent in the adrenalin-producing system, which is of purely sympathetic origin. Both sympathetic and autonomic nerves are connected with the thyroid—almost as if there were here two glands. With the pancreas, however, the autonomic vagus plays the predominant rôle. The internal secretions of the "chromaffine system" and of the thyroid have an important action as regulator of the irritability of the sympathetic system, while that of the pancreas acts in the same way on the autonomic system, confirming the absolute antagonism which is manifest in the physiologic behavior of the two groups of the entire autonomic nervous system and of the internal secretions. A number of clinical facts are explained by this conception. Lacking the internal secretion from the thyroid, for instance, the metabolism of albumin, fat and salt should, theoretically, be reduced, and this is actually what is observed in the clinic. Quite a long list is given of similar confirmations in clinical experience of theoretical assumptions based on the findings of the research described.

141. The Sphygmotonograph.—Uskoff gives an illustrated description of a sphygmograph which, he asserts, allows graphic registration of the maximal and minimal pressure, the venous pulse, heart beat, and carotid pulse; the tracings are interchangeable, and the apparatus requires no special skill in its application.

147. Adams-Stokes' Syndrome.—Jagic's patient was a man of 30 who succumbed with symptoms of heart block after a year of violent palpitations on physical exertion. There was nothing to suggest syphilis in the antecedents, but autopsy revealed numerous syphilitic gummata in the interventricular septum and bundle of His. The case teaches the importance of tentative antisyphilitic treatment in every case of heart block in the young. The case is further noticeable on account of the great benefit derived from minute doses of digitalis, not more than 0.05 gm. (0.75 grains), a day. This dosage was too small to excite the vagus and its action was thus restricted to the heart muscle alone.

Gazzetta degli Ospedali e delle Cliniche, Milan.

September 13, XXIX, No. 110, pp. 1161-1176.

150 *Sclerosis of the Lymphatics corresponding to Arteriosclerosis. (Le prime ricerche sulla linfangiosclerosi.) G. Pagano.
151 *Local Treatment of Diphtheria. (Cura locale nelle infezioni difteriche delle prime vie aeree.) G. Appiani.
152 Solitare Tubercle Found in Thalamus Opticus in a case of Hemichorea. T. Zannoni.
153 Symptoms of Inherited Syphilis and Infant Feeding. (I sintomi della sifilide ereditaria e l'allattamento.) W. Chiodi.
154 *Inhalation of Fumes of Nitric Acid in Chronic Bronchitis. G. Campanella.
155 Antimalaria Campaign in Calabria. F. Bucarelli.
156 Stab Wounds of Thorax from Criminal Point of View. (Sul pericolo di vita nelle ferite del torace.) R. G. Zoda.

150. Sclerosis of the Lymphatics Corresponding to Arteriosclerosis.—Pagano declares that the term arteriosclerosis is not broad enough to cover the condition, as the lymphatics are almost invariably affected at the same time as the arteries. Instead of "arteriosclerosis," the condition should be known as "angiosclerosis."

151. Local Treatment of Diphtheria.—Appiani affirms that local treatment is as necessary as antitoxin in treatment of diphtheria, and his experience has shown that hydrogen dioxid is best for the purpose, and especially when used with a polyvalent serum locally applied.

154. Inhalation of Fumes of Nitric Acid in Chronic Bronchitis.—Campanella reports favorable results in treatment of chronic bronchitis from inhalation of the steam from boiling water containing a few drops of nitric acid. The fumes are inhaled for 5 or 10 minutes at a time. They not only arrest the cough and reduce expectoration, but they modify the catarrhal soil of the bronchial mucosa with ultimate complete cure. They seem to have also a favorable action on the blood production and on assimilation.

Hospitalstidende, Copenhagen.

August 19, LI, No. 34, pp. 985-1008.

157 Lumbar Puncture, its Technic and Mishaps. (Lumbalpunkturens Teknik.) F. Gregersen. Commenced in No. 33.

August 26, No. 35, pp. 1009-1032.

158 *Diagnostic Utilization of Tuberculin Reactions. (Diagnostisk Udnyttelse af de lokale Tuberkulinreaktioner.) A. Erlandsen. Commenced in No. 34.

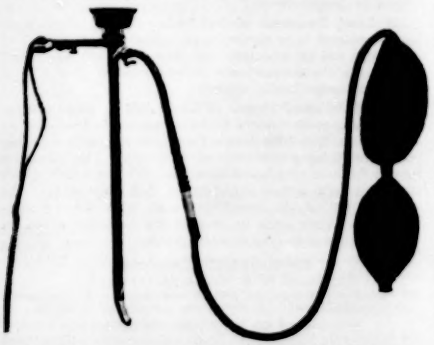
September 2, No. 36, pp. 1033-1056.

159 *Direct Visual Inspection of Stomach and Duodenum and Diaphanoscopy. (Direkte Gastro-Duodenoskopi og Diafanoskopi.) T. Rovsing. Commenced in No. 35.
160 Epidemic of Diphtheria in Deaf Mute Asylum. (En Anstalts-Epidemi.) C. Langgaard.

158. The Local Tuberculin Reactions in Diagnosis.—Erlandsen insists on the importance of applying these tests with the smallest dosage possible—otherwise the entirely latent or healed tuberculous lesions induce a reaction which thus proves misleading. The reaction is so sensitive that it is important for differentiation only when applied in such a mild form that only the active focus feels its influence and responds. He has found best for the purpose a freshly made 1 per cent. solution of Koch's old tuberculin in 0.9 per cent. salt solution.

One drop of this is instilled in the eye and, three or four days later, two drops are instilled in the other eye if no reaction is apparent. Under no circumstances must the instillation be repeated in the same eye. Applied in this mild form he has found this ocular test as reliable as subcutaneous injection, and he advocates this technic to control the cutaneous test. For this he uses the same weak solution, making a control scratch above and then scarifying through one drop of the solution of tuberculin; after one minute the part is covered with absorbent cotton held in place with plaster. The reaction may occur in from eight to twelve hours, and is compared with the control scarification after twenty-four. With this technic, he says, the test is entirely harmless and nearly as conclusive as the subcutaneous test. The cutaneous reaction includes redness and a palpable circumscribed infiltration around the scarifications. With these tests thus modified to the limit of minimal dosage he obtained a positive reaction in 100 per cent. of the certain tuberculous patients and in 48 or 64 per cent. of the suspicious cases, and only in 15 and 20 per cent. of the clinically non-tuberculous. The main point is to have a standard tuberculin solution for the tests, and to use the minimal amount that will induce a reaction.

159. **Direct Visual Inspection of the Inflated Stomach.**—Rovsing's gastroscope is introduced into the exposed stomach through a minute incision. It is similar to the Nitze gastroscope, but has an arrangement for distending the stomach with air. The incision to introduce it is made so small that the wall of the stomach closes around the instrument air-tight, or must be sutured around it. The transillumination of the inflated stomach brings out all the anatomic details. A patch of gastritis shows as a dark red to bluish patch, while tumors cast a dark diffuse shadow; deep chronic ulcers show with a china-white center, free from vessels. Small erosions cast the shadow of the blood clot over them, and trickling blood shows as a narrow stripe of shadow. The gastroscope can be pushed down into the duodenum to inflate and inspect it in the same way. The findings are even more instructive,



as the walls are thinner. After this diaphanoscopy, direct visual inspection of the lesions gives remarkably instructive findings. In two cases of the twenty-five in which he has applied this technic an ulcer or cancer seemed inevitably present, but diaphanoscopy showed that the whole trouble was merely severe ptosis. In nine cases an unexpected ulcer was revealed; in three others an ulcer was discovered in the duodenum as the cause of the vague disturbances. In another case the technic revealed a small bleeding erosion which might have entailed fatal hemorrhage if it had not been treated in time. He gives a tabulated oversight of all the cases, with colored plates showing the aspect of the inflated, transilluminated stomach. He disinfects the entire apparatus for thirty-six hours in the formalin sterilizer beforehand. None of his patients developed peritonitis.

Nordiskt medicinskt Arkiv, Stockholm.

XLI, Internal medicine, No. 1. Last indexed July 18, p. 268.

161 Recapitulatory Address on Receiving the Nobel Prize. A. Laveran (Paris). Id. E. Buchner (Berlin).

162 *Tardy Recovery from Psychoses. (Späthellung von Psychosen.) A. Petren.

163 Explanation of one Difference between Cancer Cells and other Cells. (Erläurung einer Verschiedenheit der Krebszellen von anderen Zellen.) K. A. Heiberg.

162. **Late Recovery from Mental Affections.**—Petren's long monograph is not completed in this issue of the *Arkiv*, but this section gives an oversight of the records in English and in Italian literature in regard to late recoveries from psychoses of various kinds. He sifts the different cases, discussing each in turn, and especially the form of the mental affection, its duration and the modification in the symptoms as the long-continued insanity in some of the cases took a sudden turn for the better. In the 18 cases from the Italian literature, recovery is said to have been complete, although the mental affection had lasted from four to eleven years. A violent fright is said to have caused the cure of the maniacal psychosis with depression in one case and a dysenteric colitis was responsible for the recovery in another. One of Ventra's patients recovered after twenty years of what he calls "menstrual insanity," the recovery coinciding with the menopause. The symptoms in this case persisted in a very mild form during the intervals, but violent exacerbations occurred at each menstrual period.

Books Received

Acknowledgment of all books received will be made in this column and this will be deemed by us a full equivalent to those sending them. A selection from these volumes will be made for review, as dictated by their merits, or in the interest of our readers.

THE CAMPAIGN AGAINST TUBERCULOSIS IN THE UNITED STATES. Including a Directory of Institutions Dealing with Tuberculosis in the United States and Canada. Compiled by Philip P. Jacobs, under the direction of the National Association for the Study and Prevention of Tuberculosis, by aid of the Russell Sage Foundation for the Improvement of Social Conditions. Cloth. Pp. 467. Price, $1.00. New York: Charities Publication Committee, 1908.

ECONOMIC ZOOLOGY. By Herbert Osborn, M.Sc., Professor of Zoology and Entomology in Ohio State University. Cloth. Pp. 490, with illustrations. Price, $2.00. New York: Macmillan Co., 1908.

HIGH FREQUENCY CURRENTS. By Frederick Finch Strong, M.D., Instructor in Electro-Therapeutics at Tufts College Medical School, Boston. Cloth. Pp. 289, with illustrations. Price, $3.00. New York: Rebman Co.

TEXT-BOOK OF NERVOUS DISEASES AND PSYCHIATRY. By Charles L. Dana, A.M., M.D., LL.D., Professor of Nervous Diseases in Cornell University Medical College. Seventh edition. Cloth. Pp. 782, with illustrations. Price, $5.00. New York: William Wood & Co., 1908.

VENOMS, VENOMOUS ANIMALS AND ANTIVENOMOUS SERUM-THERAPEUTICS. By A. Calmette, M.D., Director of the Pasteur Institute, Lille. Translated by Earnest E. Austen F.Z.S. Cloth. Pp. 403, with illustrations. Price, $5.00. New York: William Wood & Co., 1908.

GENITO-URINARY DISEASES AND SYPHILIS. By Edgar G. Ballinger, M.D., Lecturer on Genito-Urinary Diseases, Syphilis and Urinalysis, Atlanta School of Medicine. Cloth. Pp. 276, with illustrations. Price, $3.00. Atlanta: E. W. Allen & Co., 1908.

AIDS TO OPHTHALMOLOGY. By N. Bishop Harman, M.A., M.B., Cantab., F.R.C.S. Eng., Ophthalmic Surgeon to the Belgrave Hospital for Children. Cloth. Pp. 165, with illustrations. Fourth edition. Price, $1.00. New York: William Wood & Co., 1908.

TEXT-BOOK OF OPERATIVE SURGERY. By Warren Stone Bickham, M.D., Phar. M., Junior Surgeon, Touro Hospital, New Orleans. Cloth. Pp. 1206, with illustrations. Third edition. Price, $6.50. Philadelphia: W. B. Saunders Co., 1908.

AIDS TO TROPICAL MEDICINE. By Gilbert E. Brooke, M.A., Cantab., L.R.C.P. Edin., D.P.H., F.R.G.S., Port Health Officer, Singapore. Cloth. Pp. 163, with illustrations. Price, $1.00. New York: William Wood & Co., 1908.

OPERATIVE MIDWIFERY. By J. M. Munro Kerr, M.B., C.M., Glas., Fellow of the Faculty of Physicians and Surgeons, Glasgow. Cloth. Pp. 705 with illustrations. Price, $6.00. New York: William Wood & Co., 1908.

REPORT FROM THE PATHOLOGICAL DEPARTMENT, Central Indiana Hospital for Insane, 1903-1906. Cloth. Pp. 392. Indianapolis: William B. Burford, Contractor for State Printing and Binding, 1908.

THOMAS LINACRE. By William Osler, M.D., F.R.S., Regius Professor of Medicine in the University of Oxford. Cloth. Pp. 64. Price, $0.75. Cambridge: University Press, 1908.

HAND BOOK OF HELP FOR PERSONS SUFFERING FROM PULMONARY TUBERCULOSIS. Department of Health, City of New York. Pp. 64. New York: J. W. Pratt Co., 1908.

SURGERY OF THE URETER: Historical Review. By Benjamin Merrill Ricketts, Ph.B., M.D., LL.D., Member Am. Med. Assn. Cloth. Pp. 244. Cincinnati.